INSTALLATION RESTORATION PROGRAM

FINAL

SITE INVESTIGATION REPORT

130th AIRLIFT GROUP
WEST VIRGINIA AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

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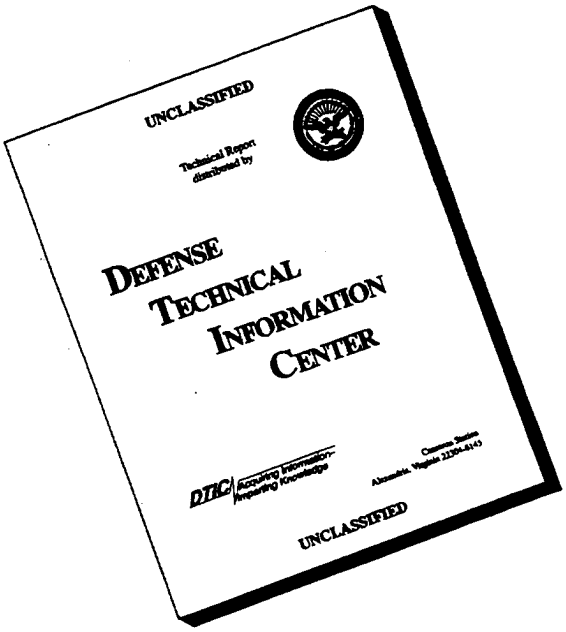
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AIR NATIONAL GUARD
INSTALLATION RESTORATION PROGRAM

FINAL
SITE INVESTIGATION REPORT

April 1996

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West Virginia Air National Guard
Yeager Airport
Charleston, West Virginia

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SITE INVESTIGATION REPORT
for
130TH AIRLIFT GROUP
WEST VIRGINIA AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

TABLE OF CONTENTS

SECTION			Page
TITLE PAGE			i
TABLE OF CONTENTS			v
LIST OF TABLES			vii
LIST OF FIGURES			x
LIST OF ACRONYMS			ES-1
EXECUTIVE SUMMARY			1-1
1.0	INTRODUCTION		1-1
	1.1	Installation Restoration Program Approach	1-2
	1.2	Purpose	1-4
	1.3	Authorization	2-1
2.0	FACILITY DESCRIPTION		2-1
	2.1	Location	2-1
	2.2	History	2-4
	2.3	Preliminary Assessment	2-5
	2.4	Scope of Current Investigation	2-5
		2.4.1 Description of Sites	2-7
		2.4.2 Description of Project	3-1
3.0	ENVIRONMENTAL SETTING		3-1
	3.1	Topography	3-4
	3.2	Soils	3-4
	3.3	Geology	3-7
	3.4	Hydrology	3-14
	3.5	Meteorology	4-1
4.0	FIELD PROGRAM		4-1
	4.1	Field Screening Activities	4-3
		4.1.1 Geophysical Survey	4-3
		4.1.2 Soil Organic Vapor Survey	4-4
		4.1.3 Hand Auger Borings	4-4
		4.1.4 Surface Water and Sediment Samples	4-4

CONTENTS (Continued)

SECTION			Page
	4.2	Confirmation and Delineation Activities	4-5
		4.2.1 Soil Borings	4-5
		4.2.2 Monitoring Well Installation	4-5
		4.2.3 Hand Auger Borings	4-6
		4.2.4 Surface Water Samples	4-6
		4.2.5 Aquifer Testing	4-6
	4.3	Site Survey	4-6
	4.4	Investigation-Derived Waste	4-7
	4.5	Deviations from Work Plan	4-15
5.0	DATA EVALUATION		5-1
	5.1	Criteria for Evaluation of Groundwater and Surface Water	5-1
	5.2	Criteria for Evaluation of Soils and Sediments	5-3
6.0	INVESTIGATION RESULTS		6-1
	6.1	Basewide Geologic and Hydrogeologic Investigation Results	6-1
	6.2	Background Sampling Results	6-2
		6.2.1 Soil	6-2
		6.2.2 Groundwater	6-3
	6.3	Site 1 - Waste Disposal Site No. 1	6-3
		6.3.1 Site Description	6-3
		6.3.2 Screening Activity Results	6-6
		6.3.2.1 Geophysical Survey	6-6
		6.3.2.2 Soil Organic Vapor Survey	6-7
		6.3.2.3 Hand Auger Borings/Sediments	6-10
		6.3.2.4 Surface Water	6-18
		6.3.3 Confirmation and Delineation Activity Results	6-19
		6.3.3.1 Hand Auger Borings	6-19
		6.3.3.2 Surface Water	6-19
		6.3.4 Geologic and Hydrogeologic Investigation Results	6-22
	6.4	Site 2 - Waste Disposal Site No. 2	6-22
		6.4.1 Site Description	6-22
		6.4.2 Screening Activity Results	6-23
		6.4.2.1 Geophysical Survey	6-23
		6.4.2.2 Hand Auger Borings	6-24
		6.4.2.3 Surface Water/Sediments	6-30
		6.4.3 Confirmation and Delineation Activity Results	6-31
		6.4.3.1 Soil Borings	6-31
		6.4.3.2 Surface Water	6-35
		6.4.4 Geologic and Hydrogeologic Investigation Results	6-35

CONTENTS (Continued)

SECTION			Page
6.5	Site 3 - Former Fire Training Area		6-38
	6.5.1	Site Description	6-38
	6.5.2	Screening Activity Results	6-39
		6.5.2.1 Geophysical Survey	6-39
		6.5.2.2 Soil Organic Vapor Survey	6-40
		6.5.2.3 Hand Auger Borings	6-43
	6.5.3	Confirmation and Delineation Activity Results	6-45
		6.5.3.1 Soil Borings	6-45
	6.5.4	Geologic and Hydrogeologic Investigation Results	6-45
6.6	Site 4 - Past Chemical Disposal at Engine Test Stand		6-48
	6.6.1	Site Description	6-48
	6.6.2	Screening Activity Results	6-50
		6.6.2.1 Soil Organic Vapor Survey	6-50
	6.6.3	Confirmation and Delineation Activity Results	6-50
		6.6.3.1 Soil Borings	6-50
	6.6.4	Geologic and Hydrogeologic Investigation Results	6-53
6.7	Site 5 - Liquid Disposal Site		6-53
	6.7.1	Site Description	6-53
	6.7.2	Screening Activity Results	6-56
		6.7.2.1 Soil Organic Vapor Survey	6-56
	6.7.3	Confirmation and Delineation Activity Results	6-59
		6.7.3.1 Soil Borings	6-59
	6.7.4	Geologic and Hydrogeologic Investigation Results	6-60
7.0	SUMMARY AND CONCLUSIONS		7-1
7.1	Summary		7-1
7.2	Conclusions		7-2
	7.2.1	Site 1 - Waste Disposal Site No. 1	7-2
	7.2.2	Site 2 - Waste Disposal Site No. 2	7-5
	7.2.3	Site 3 - Former Fire Training Area	7-8
	7.2.4	Site 4 - Past Chemical Disposal at Engine Test Stand	7-10
	7.2.5	Site 5 - Liquid Disposal Site	7-10
8.0	RECOMMENDATIONS		8-1
8.1	Site 1 - Waste Disposal Site No. 1		8-1
8.2	Site 2 - Waste Disposal Site No. 2		8-1
8.3	Site 3 - Former Fire Training Area		8-2
8.4	Site 4 - Past Chemical Disposal at Engine Test Stand		8-3
8.5	Site 5 - Liquid Disposal Site		8-3
9.0	LIST OF REFERENCES		9-1

APPENDICES

A Field Procedures and Analytical Program

B Geophysical Survey Report

C Soil Organic Vapor Survey Report

D Aquifer Test Results

E Survey Data

F Analytical Summary Tables

G Chain-of-Custody Documentation

H Field Logs

LIST OF TABLES

TABLE		Page
2-1	History of Base Operations, 130th Airlift Group, West Virginia ANG	2-4
2-2	Summary of Site Information, 130th Airlift Group, West Virginia ANG, Site Investigation	2-7
2-3	Summary of Field Samples at WVANG Yeager Airport	2-9
2-4	Summary of QA/QC Samples at WVANG Yeager Airport	2-9
4-1	Summary of Site Investigation Field Activities, 130th Airlift Group, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-2
4-2	WV Air National Guard - Yeager Airport, Summary of TCLP Results for Soil Cuttings and Waste Water	4-14
5-1	Phase I Site Investigation, West Virginia Air National Guard, Yeager Airport, Summary of Water Quality Criteria for Evaluation of Groundwater and Surface Water	5-2
5-2	Phase I Site Investigation, West Virginia Air National Guard - Yeager Airport, Screening Criteria for the Evaluation of Soils	5-5
6-1	West Virginia Air National Guard - Background Data, Summary of Constituents Detected in Background Soil	6-4
6-2	West Virginia Air National Guard - Background Data, Summary of Constituents Detected in Background Monitoring Well	6-5
6-3	Summary of Compounds Detected, SOV Survey, Site 1	6-9
6-4	Frequency of Compounds Detected, SOV Survey, Site 1	6-10
6-5	Summary of Screening Activity Results, Site 1	6-11
6-6	Summary of Confirmation and Delineation Activity Results, Site 1	6-20
6-7	Summary of Screening Activity Results, Site 2	6-25
6-8	Summary of Confirmation and Delineation Activity Results, Site 2	6-32

TABLES (Continued)

TABLE		Page
6-9	Summary of Compounds Detected, SOV Survey, Site 3	6-42
6-10	Frequency of Compounds Detected, SOV Survey, Site 3	6-43
6-11	Summary of Screening Activity Results, Site 3	6-44
6-12	Summary of Confirmation and Delineation Activity Results, Site 3	6-46
6-13	Summary of Compounds Detected, SOV Survey, Site 4	6-52
6-14	Frequency of Compounds Detected, SOV Survey, Site 4	6-52
6-15	Summary of Confirmation and Delineation Activity Results, Site 4	6-54
6-16	Summary of Compounds Detected, SOV Survey, Site 5	6-58
6-17	Frequency of Compounds Detected, SOV Survey, Site 5	6-59
6-18	Summary of Confirmation and Delineation Activity Results, Site 5	6-61
7-1	Summary of Contaminants Exceeding ARARs, Site 1	7-3
7-2	Summary of Contaminants Exceeding ARARs, Site 2	7-6
7-3	Summary of Contaminants Exceeding ARARs, Site 3	7-8
7-4	Summary of Contaminants Exceeding ARARs, Site 5	7-11

LIST OF FIGURES

Figure		Page
1.1	IRP Flow Diagram	1-3
2.1	Location of the 130th Airlift Group, Yeager Airport, West Virginia Air National Guard, Charleston, West Virginia	2-2
2.2	Facility/Basewide Location Map, Site Locations, 130th Airlift Group, West Virginia Air National Guard, Yeager Airport, Charleston West Virginia	2-6
3.1	Physiographic Map of West Virginia, 130th AG, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	3-2
3.2	Areas of Cut and Fill at the Base, 130th AG, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	3-3
3.3	Soils Map, 130th Airlift Group, West Virginia Air National Guard	3-5
3.4	Stratigraphic Section at 130th AG, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	3-6
3.5	Generalized Geologic Map of 130th Airlift Group, West Virginia Air National Guard Vicinity	3-8
3.6	Surface Water Runoff Map, 130th Airlift Group, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	3-10
3.7	Surface Water Runoff Map, Sites 1, 2, 4, and 5, 130th Airlift Group, West Virginia Air National Guard (in map pocket)	3-11
3.8	Surface Water Runoff Map, Site 3, 130th Airlift Group, West Virginia Air National Guard (in map pocket)	3-12
4.1	Facility/Basewide Background Sample Location Map, 130th Airlift Group, West Virginia Air National Guard	4-8
4.2	Site Plan, Site 1 - Waste Disposal Site No. 1, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-9
4.3	Site Plan, Site 2 - Waste Disposal Site No. 2, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-10
4.4	Site Plan, Site 3 - Former Fire Training Area, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-11

FIGURES (Continued)

Figure		Page
4.5	Site Plan, Site 4 - Past Chemical Disposal at Engine Test Stand, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-12
4.6	Site Plan, Site 5 - Liquid Disposal Site, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	4-13
6.1	SOV Sampling Locations and Total Organics Concentration Map, Site 1 - Waste Disposal Site No. 1, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-8
6.2	Geologic Profile, Site 2 - Waste Disposal Site No. 2, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-37
6.3	SOV Sampling Locations and TCA Concentration Map, Site 3 - Former Fire Training Area, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-41
6.4	Geologic Profile, Site 3 - Former Fire Training Area, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-49
6.5	SOV Sampling Locations and TCE Concentration Map, Site 4 - Past Chemical Disposal at Engine Test Stand, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-51
6.6	Geologic Profile, Site 4 - Past Chemical Disposal at Engine Test Stand, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-55
6.7	SOV Sampling Locations and Total Organics Concentration Map, Site 5 - Liquid Disposal Site, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-57
6.8	Geologic Profile, Site 5 - Liquid Disposal Site, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	6-63
7.1	Distribution of Contaminants Exceeding ARARs, Site 1 - Waste Disposal Site No. 1, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	7-4
7.2	Distribution of Contaminants Exceeding ARARs, Site 2 - Waste Disposal Site No. 2, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	7-7

FIGURES (Continued)

Figure		Page
7.3	Distribution of Contaminants Exceeding ARARs, Site 3 - Former Fire Training Area, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	7-9
7.4	Distribution of Contaminants Exceeding ARARs, Site 5 - Liquid Disposal Site, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia	7-12

LIST OF ACRONYMS

AG	Airlift Group
ANGRC	Air National Guard Readiness Center
ARAR	Applicable or Relevant and Appropriate Requirement
ASTM	American Society of Testing & Materials
AVGAS	Aviation Gasoline
AWQC	Ambient Water Quality Criteria
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
°C	Degrees Celsius
CDF	Clymer-Dekalb Soil Complex
CLP	Contract Laboratory Program
CRQL	Contract Required Quantitation Limits
CWA	Clean Water Act
DAF	Dilution Attenuation Factor
DD	Decision Document
DIOF	Deionized Organic Free
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
DQO	Data Quality Objective
EB	Equipment Blank
ECD	Electron Capture Detector
EM	Electromagnetic
°F	Degrees Fahrenheit
FFS/RM	Focused Feasibility Study/Remedial Measure
FID	Flame Ionization Detector
FTA	Fire Training Area
GC/MS	Gas Chromatograph/Mass Spectrophotometer
GFAA	Graphite Furnace Atomic Absorption
GID	Gilpin Silt Loam
gpd	Gallons per Day
gpm	Gallons per Minute
GPR	Ground-Penetrating Radar
HA	Hand Auger
HARM	Hazard Assessment Rating Methodology
HAZWRAP	Hazardous Waste Remedial Actions Program
IAG	Interagency Agreement
ICP	Inductively Coupled Plasma
ID	Inside Diameter
IRP	Installation Restoration Program
J and UJ	Concentration Estimated
JP-4	Jet Fuel
LIMS	Laboratory Information Management System
LMES	Lockheed Martin Energy Systems, Inc.
M&E	Metcalf & Eddy, Inc.

ACRONYMS (Continued)

MCL	Maximum Contaminant Level
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MHz	Megahertz
ML	Sandy Silt
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSL	Mean Sea Level
MW	Monitoring Well
NATO	North Atlantic Treaty Organization
ND	Not Detected
NET	National Environmental Testing, Inc.
NFA	No Further Action
NIST	National Institute of Sciences and Technology
PA	Preliminary Assessment
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PID	Photoionization Detector
POL	Petroleum, Oil, and Lubricants
PPM	Priority Pollutant Metals
ppm	parts per million
PRG	Preliminary Remediation Goal
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
QC	Quality Control
R	Result Rejected
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RfD	Reference Dose
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
SB	Soil Boring
SDG	Sample Delivery Group
SDWA	Safe Drinking Water Act
SI	Site Investigation
SM	Sandy Silts
SOV	Soil Organic Vapor
SSL	Soil Screening Level
SVOC	Semivolatile Organic Compound
SW	Surface Water
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TAP	Tap Water

ACRONYMS (Continued)

TB	Trip Blank
TCA	Trichloroethane
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TVHC	Total Volatile Hydrocarbons
U	Undetected
UC	Udorthents Soil Complex
µg/L	Micrograms Per Liter
UJ	Undetected, Estimated
USCS	United Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
WP	Work Plan
WVANG	West Virginia Air National Guard
WVWQS	West Virginia Water Quality Standard

EXECUTIVE SUMMARY

INTRODUCTION

This report presents the Site Investigation results for the 130th Airlift Group, West Virginia Air National Guard, Yeager Airport, Charleston, West Virginia. The investigation included five sites identified in the Preliminary Assessment. Field sampling activities were conducted from October 1994 to June 1995. The data collected were used to evaluate the potential nature and extent of contamination. Recommendations were made for no action/further action at each site.

PURPOSE

A Preliminary Assessment was performed in 1988. This assessment identified five sites with the potential for soil and/or groundwater contamination. The five sites identified for investigation under the Installation Restoration Program were as follows:

- Site 1 - Waste Disposal Site No. 1
- Site 2 - Waste Disposal Site No. 2
- Site 3 - Former Fire Training Area
- Site 4 - Past Chemical Disposal at Engine Test Stand
- Site 5 - Liquid Disposal Site

The Site Investigation was conducted to confirm the presence or absence of contamination, evaluate the potential extent of contamination, and assess the potential impacts to human health, welfare, and the environment. Data from the Site Investigation was used to make one of the following recommendations:

- Develop a plan and implement an immediate action;
- Prepare a Decision Document recommending no further action;
- Initiate a Focused Feasibility Study/Remedial Measure; or

- Proceed to a Remedial Investigation/Feasibility Study.

DATA EVALUATION

Sampling results were tabulated by the constituents detected at each site by medium and concentrations were compared to the following screening criteria:

- Two times the average background concentration (criterion background) for inorganic analytes in soils.

- Soil screening values (derived from proposed RCRA action levels, TCLP extract limits and groundwater Maximum Contaminant Levels (MCLs)).

- MCLs or Ambient Water Quality Criteria (AWQC) for groundwater and surface water, respectively.

Comparison to the criterion background concentrations were used to identify key contaminants at each site. Recommendations were made for each site based on the comparison of key soil contaminants to soil screening levels and groundwater and surface water constituents to MCLs or AWQC.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

At Site 1 - Waste Disposal Site No. 1, eleven inorganic analytes exceed their respective criterion background concentration in soil. Only antimony, cadmium, copper, and lead exceed their respective soil screening level (SSL). The vertical and horizontal extent of contamination in soil is limited. Lateral migration is limited to 85 downslope of the waste disposal area; vertical migration is generally limited to the upper 2 feet of soil downslope of the waste disposal area. Migration to groundwater has not occurred as evidenced by sampling the seep located approximately 300 feet downslope of the Site 1 boundary. Since

exposure through direct contact or inhalation of dust is not known or suspected, an adverse impact to human health is not predicted. No Further Action is recommended at Site 1.

At Site 2 - Waste Disposal Site No. 2, low levels of volatile and semivolatile organic compounds were detected in soil and sediment. These constituents were well below their respective SSL and were also detected in surface water upgradient of the site. Only lead slightly exceeded its SSL range (114 vs 100 milligrams per kilogram) in one sample and is not considered to be significant. Based on the vertical separation between shallow soil contamination found and the depth to the water table (greater than 24 feet), it is unlikely that groundwater has been impacted by site activities. No Further Action is recommended at Site 2.

Low levels of VOCs and SVOCs were detected at Site 3 - Former Fire Training Area. Only chrysene and benzo(a)anthracene slightly exceeded their respective SSL range in one sample. The concentrations detected decreased with depth and were not detected at a depth of 22.5 feet. Based on the vertical separation between the shallow soil contamination found and the depth to the water table (greater than 31 feet), it is unlikely that groundwater has been impacted by the former site activities. No Further Action is recommended at Site 3.

Low levels of VOCs were detected at Site 4 - Past Chemical Disposal at Engine Test Stand, all were below their respective SSL range. Based on the vertical separation between shallow soil contamination found and the depth to the water table (greater than 30 feet), it is unlikely that groundwater has been impacted by past site activities. No Further Action is recommended at Site 4.

At Site 5 - Liquid Disposal Site, low levels of VOCs and SVOCs were detected. Only benzo(a)anthracene, carbazole, and chrysene slightly exceeded their respective SSL. Based on the vertical separation between shallow soil contamination found and the depth to the water table (greater than 21 feet), it is unlikely that groundwater has been impacted by site activities. No Further Action is recommended at Site 5.

SECTION ONE
INTRODUCTION

The Department of Defense (DOD) has developed a program to identify and evaluate sites on DOD property where contamination may be present as a result of past spills or hazardous waste disposal practices. This program is the Installation Restoration Program (IRP), and its purpose is to identify, investigate, and remediate past spill and waste disposal sites. As part of this program, the Air National Guard Readiness Center (ANGRC) has entered into an interagency agreement (IAG No. 1489-1489-A1) with the Department of Energy (DOE) under which DOE will provide technical assistance for the implementation of the IRP and related activities. Lockheed Martin Energy Systems, Inc. (LMES) was assigned the support contractor role, and the Hazardous Waste Remedial Actions Program (HAZWRAP) was established. HAZWRAP provides the major support for program management and for technology research, development, demonstration, and waste management.

Metcalf & Eddy, Inc. (M&E) has been subcontracted by HAZWRAP to conduct a Site Investigation (SI) at the 130th Airlift Group (AG), West Virginia Air National Guard (WVANG) Installation (hereinafter referred to as the Base). The Base is located at Yeager Airport, Charleston, West Virginia.

1.1 INSTALLATION RESTORATION PROGRAM APPROACH

The IRP site-identification process consists of conducting a Preliminary Assessment (PA) at DOD installations where hazardous wastes reportedly have been disposed or stored. The steps in conducting a PA are as follows:

- Conduct a record search regarding past disposal practices
- Conduct interviews with employees
- Identify potentially contaminated sites
- Determine the necessity of further action

A finding of no further action (NFA) requires the preparation of a Decision Document (DD). A finding that further action is required will result in the performance of one of the following:

- SI
- Focused Feasibility Study/Remedial Measure (FFS/RM)
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Action (RA)

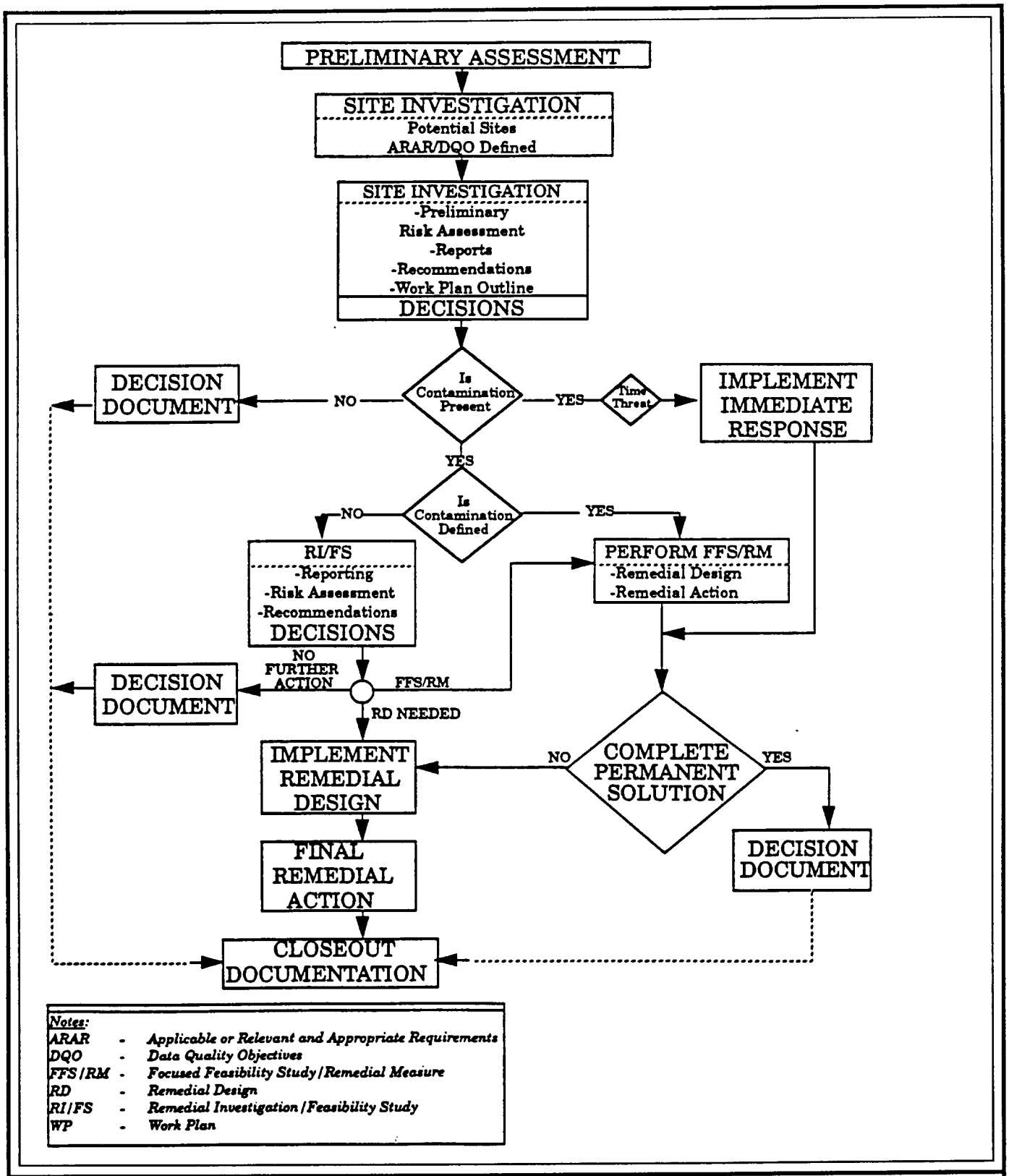
The decision process associated with the IRP is illustrated in **Figure 1.1.**

1.2 PURPOSE

A SI was conducted at five sites identified in the PA to confirm the presence or absence of contamination, evaluate the extent of contamination where it was known to exist, and assess the potential impacts to human health, welfare, and the environment. Upon completion of the SI, the data were evaluated and one of the following four alternatives was recommended:

- Develop a plan and implement an immediate action
- Prepare a DD recommending NFA
- Initiate a FFS/RM, or
- Proceed to a RI/FS

The purpose of this report is to present the results of the SI. The report consists of five sections and eight appendices. The introduction and environmental setting are provided in Sections One and Two, respectively. A description of the field program undertaken is provided in Section Three. The data evaluation is presented in Section Four, summary, and conclusions are presented in Section Five. The appendices contain the supporting technical data, including screening reports, field logs, survey data, and analytical data.



IRP FLOW DIAGRAM
(Source: PEER Consultants, 1989)

FIGURE 1.1

1.3 AUTHORIZATION

The SI at 130th AG, WVANG Installation was authorized by LMES under General Order No. 91B-99791C, Work Release No. K-07.

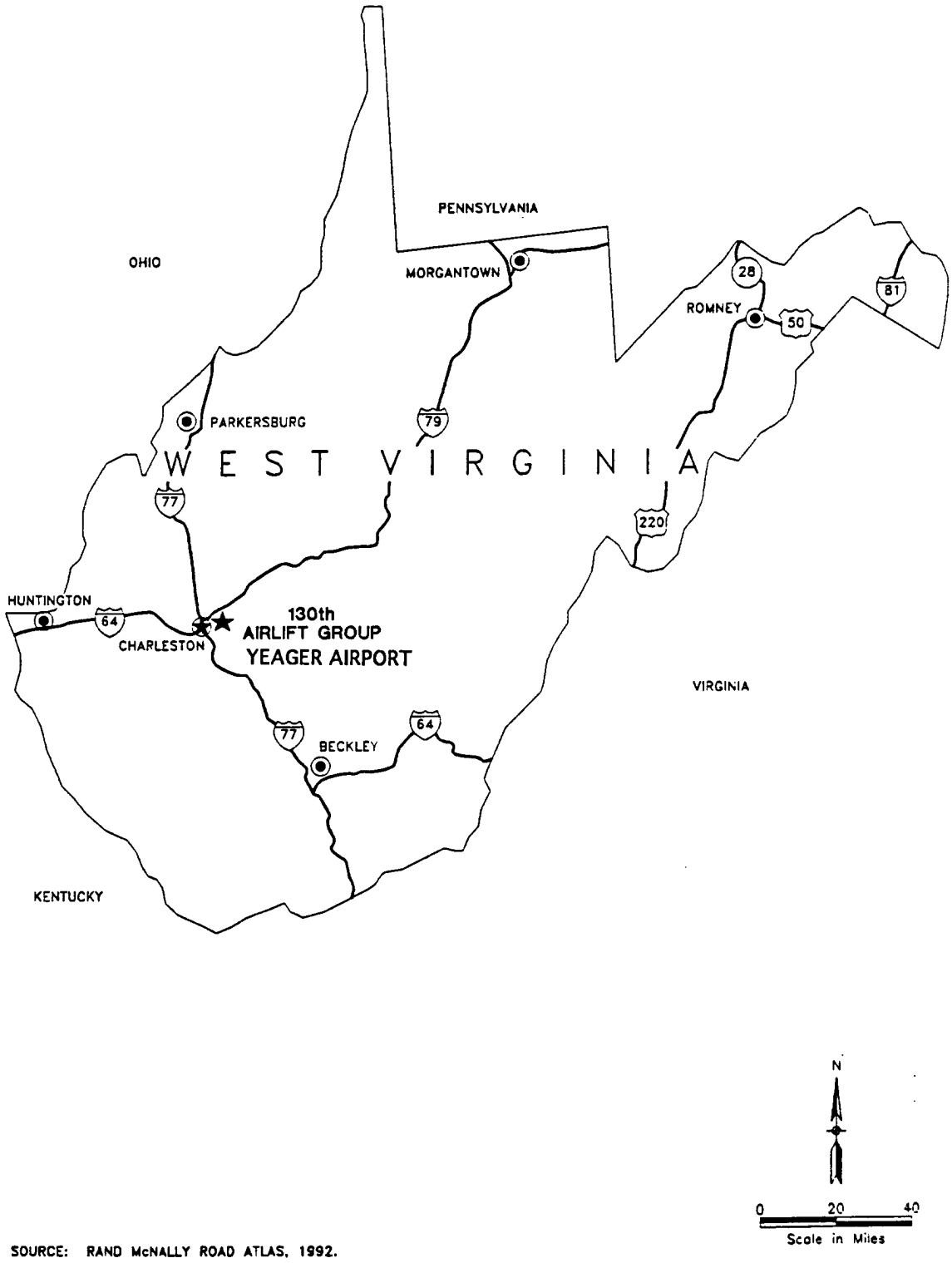
SECTION TWO
FACILITY DESCRIPTION

2.1 LOCATION

The Base is located at Yeager Airport (formerly known as Kanawha Airport) in Kanawha County, approximately 4 miles northeast of downtown Charleston, West Virginia as shown in **Figure 2.1.** Yeager Airport is situated next to the Charleston corporate boundary, and portions of several residential zones lie within a 1-mile radius of the Base. The Base occupies a total of 109 acres. Of this total, 75 acres are occupied by the Base facilities next to the airport. The remaining 34 acres surround a sloping and winding road (Commando Road) which begins at the entrance of the Base property off Coonskin Park Road and ascends about 220 feet in elevation to the runway level. This area contains the liquid fuels and liquid oxygen facilities, the disaster preparedness, civil engineering, security police, vehicle maintenance, and the traffic check station. The 130th Airlift Group (AG) is stationed at the Base. **Figure 2.2** illustrates the location and boundaries of the Base.

2.2 HISTORY

The 130th AG began as the World War II 369th Fighter Squadron. The 369th Fighter Squadron was reactivated in 1947 and was assigned to the WVANG as the 167th Fighter Squadron. The unit shared Kanawha Airport facilities with airport personnel for 2 years and then moved to its present location in 1949. The Republic F-47 was the primary aircraft of the 167th Fighter Squadron.



SOURCE: RAND McNALLY ROAD ATLAS, 1992.

LOCATION OF THE 130TH AIRLIFT GROUP, YEAGER AIRPORT
WEST VIRGINIA AIR NATIONAL GUARD
CHARLESTON, WEST VIRGINIA

FIGURE 2.1

In 1950, the 167th Fighter Squadron converted to F-51D aircraft and was mobilized for active duty during the Korean Conflict. From 1950 until 1952, the unit performed training missions and provided personnel in Korea and England to support the North Atlantic Treaty Organization (NATO) forces. The 167th Fighter Squadron returned to Kanawha Airport in 1952, at which time the unit was redesignated the 167th Fighter Bomber Squadron.

In 1955, a portion of the 167th Fighter Bomber Squadron was moved to Martinsburg Municipal Airport in Martinsburg, West Virginia, in preparation for the receipt of North American F-86 aircraft. (Kanawha Airport could not support jet-fighter aircraft due to size limitations.) The unit that remained was redesignated the 130th Troop Carrier Squadron, which flew Curtiss-Wright C-46 aircraft. During the late 1950s, the 130th Troop Carrier Squadron was upgraded to group status, and the unit's primary aircraft was changed to the Grumman HU-16 aircraft. The 130th Troop Carrier Group was active during the Vietnam era, providing aerial gunships, psychological warfare support, and air evacuation support for U.S. forces. In July 1963, the unit was renamed the 130th Air Commando Group and was assigned Fairchild C-119 and Helio U-10 aircraft.

From 1965 until 1975, the 130th Air Commando Group flew daily training missions to the Panama Canal Zone as part of U.S. Air Force operations. During this period, the unit participated in NATO exercises in England and the former West Germany. The unit also provided training support for the U.S. Army's Special Forces, provided airlift support for the U.S. Air Force, and performed relief flight missions for the federal government and state governments. In 1975, the unit was redesignated the 130th Tactical Airlift Group and converted to the Lockheed C-130E aircraft, a transport plane. Kanawha Airport was renamed Yeager Airport in October 1985. In 1989, the C-130H became the Base's primary aircraft. In 1995, the unit became known as the 130th Airlift Group.

In support of its primary mission of tactical airlift, the Base has stored and used various types of hazardous materials during its history. Although some of the Base's historical operations have resulted in the storage and use of hazardous materials, not all of these operations relate to IRP sites. A summary of Base operations and weapons systems utilized

is provided in **Table 2-1**. Hazardous substances were used in conjunction with the following activities: weapons maintenance; fuel, oil and solvent storage; and disposal activities.

Table 2-1
History of Base Operations
130th Airlift Group, West Virginia ANG

Period	Type of Operation	Mission/Weapon System
1947-1950	167th Fighter Squadron	Republic F-47 "Thunderbolt" aircraft
1950-1952	167th Fighter Squadron	F-51D "Mustang" aircraft
1952-1955	167th Fighter Squadron	F-51D "Mustang" aircraft
1955-Late 1950s	130th Troop Carrier Squadron	Curtiss-Wright C-46 aircraft
Late 1950s-1963	130th Troop Carrier Group	Grumman HU-16 "Albatross" aircraft
1963-1975	130th Air Commando Group	Fairchild C-119, Helio U-10 "Courier" aircraft
1975-1989	130th Tactical Airlift Group	Lockheed C-130E "Hercules" aircraft
1989-1992	130th Tactical Airlift Group	C-130H aircraft
1992-1995	130th Airlift Group	C-130H aircraft
1995-Present	130th Airlift Wing	C-130H aircraft

2.3 PRELIMINARY ASSESSMENT

The PA conducted at the Base in 1988 by PEER Consultants (1989) consisted of:

- An on-site visit, including interviews with 25 Base employees;
- The acquisition and analysis of pertinent information and records on past hazardous materials use and past hazardous wastes generation and disposal at the Base;
- The acquisition and analysis of available geologic, hydrologic, meteorologic, and environmental data from pertinent federal, state, and local agencies; and

- The identification of sites on the Base that may be contaminated with hazardous materials/hazardous wastes.

The PA identified five sites with the potential to have contaminated soils and/or groundwater. These five sites were rated using the U.S. Air Force Hazardous Assessment Rating Methodology (HARM). The five sites recommended for further investigation under the IRP were as follows:

- Site 1 - Waste Disposal Site No. 1
- Site 2 - Waste Disposal Site No. 2
- Site 3 - Former Fire Training Area (FTA)
- Site 4 - Past Chemical Disposal at Engine Test Stand
- Site 5 - Liquid Disposal Site

2.4 SCOPE OF CURRENT INVESTIGATION

2.4.1 Description of Sites

The SI was conducted at the five sites identified in the PA to confirm the presence or absence of contamination, evaluate the potential extent of contamination where it was known to exist, and assess the potential impacts to human health, welfare, and the environment. A list of the five sites along with a brief description of each site is included in **Table 2-2.** A more detailed description of each site as well as the results of the investigation for each is in Sections Four and Five. The locations of the sites investigated are shown in **Figure 2.2.**

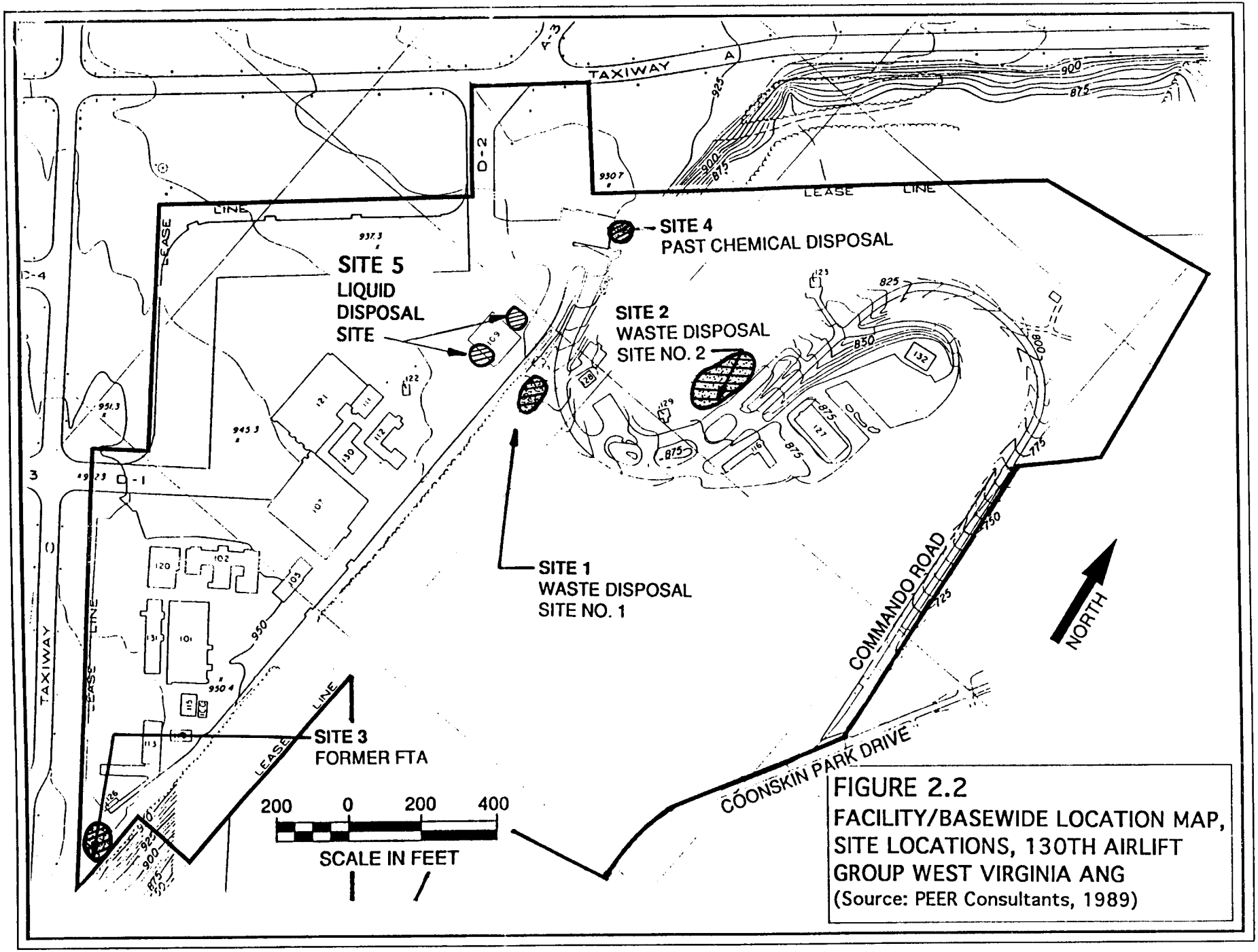


FIGURE 2.2
FACILITY/BASEWIDE LOCATION MAP, SITE LOCATIONS, 130TH AIRLIFT GROUP WEST VIRGINIA ANG
(Source: PEER Consultants, 1989)

Table 2-2
Summary of Site Information
130th Airlift Group, West Virginia ANG
Site Investigation

Site Number	Site Name	Disposed Material	Operation Date	Identification Date
1	Waste Disposal Site No. 1	Base refuse, including metal and plastic containers with trace amounts of solvents, oils, paints, thinners, and gasoline	1957-1970	1989
2	Waste Disposal Site No. 2	Construction debris, fuels, waste oils, solvents, nonhazardous sewage sludge	1950-1989	1989
3	Former Fire Training Area	Gasoline, jet fuel, motor oil, solvents	1970-1979	1989
4	Past Chemical Disposal at Engine Test Stand	Solvents	1981	1989
5	Liquid Disposal Site	Liquid wastes, including gasoline and oil	Mid-1950s-1974	1993

2.4.2 Description of Project

The sampling approach performed during this SI used a two-phase process. Phase I consisted of field screening activities. Phase I activities included geophysical and soil gas surveys, shallow hand auger borings, and collection of surface water and sediment samples. The geophysical and soil gas surveys began October 2, 1994 and were completed October 7, 1994. The remainder of the screening activities began on December 10 and continued to December 20, 1994.

Phase II consisted of confirmation and delineation activities. Phase II activities included additional hand auger borings and surface water samples, soil borings, monitoring well installation, and collection of groundwater samples. Confirmation and delineation activities began on April 10, 1995 and continued to June 3, 1995.

At each site, a number of field samples from different matrix types were collected over the course of the investigation. A total of 98 samples (excluding 65 soil organic vapor survey samples) were collected and analyzed for chemical parameters as outlined in the Sampling and Analysis Plan (SAP). Parameters analyzed were based on the suspected contaminants at each site. Approximately 50 percent of the total numbers of samples collected during the field investigation were used for Quality Control (QC). QC samples included trip blanks, source water blanks, equipment rinse blanks, field duplicates, and laboratory QC samples as outlined in the SAP. A summary of the field samples and quality control samples collected during the field investigation is listed in **Tables 2-3 and 2-4**, respectively. An in-depth discussion of the field effort and the results of the SI are presented in Sections Six and Seven.

TABLE 2-3
SUMMARY OF FIELD SAMPLES AT WVANG YEAGER AIRPORT

SITE NAME	SCREENING PHASE				CONFIRMATION AND DELINEATION PHASE					TOTAL
	SOV POINTS	HAND AUGER	SURFACE WATER	SEDIMENT	HAND AUGER	SURFACE WATER	SEDIMENT	BORINGS	GROUND WATER	
Background								3	2	5
1	10	20	1	2	3	1				37
2		12	4	4		2		9		31
3	21	5						9		35
4	13							8		21
5	21							13		34
TOTAL	65	37	5	6	3	3	0	42	2	163

TABLE 2-4
SUMMARY OF QA/QC SAMPLES AT WVANG YEAGER AIRPORT

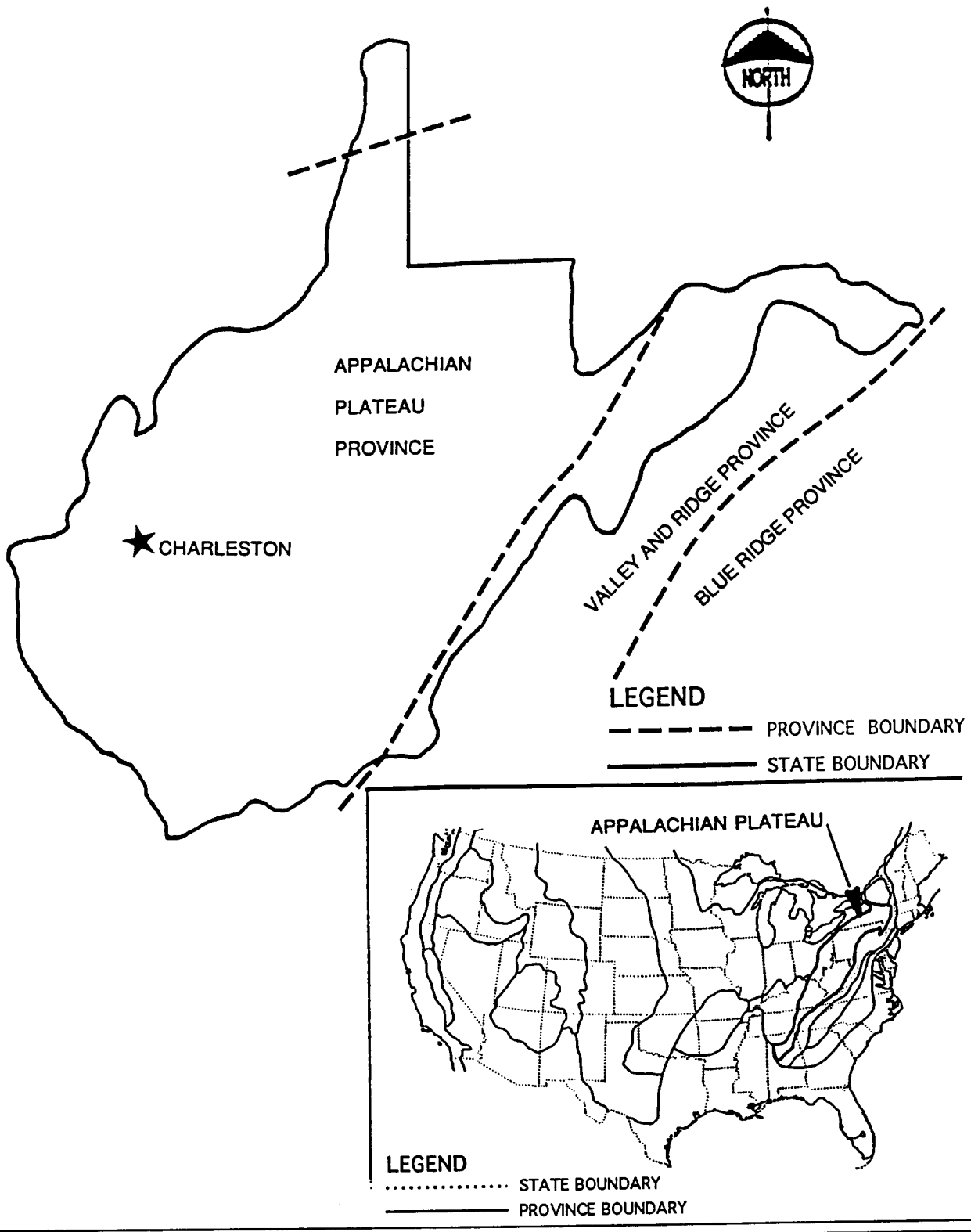
SITE NAME	QA/QC SAMPLE TYPE					TOTAL
	FIELD BLANK	TRIP BLANK	DUPLICATES	RINSE BLANKS	MS/MSD	
Background		2	2	2	1	7
1		4	5	3	1	13
2		3	4	3	4	14
3		3	2	1	1	7
4		1	1			2
5		2	1		1	4
Source Water	2	2				4
TOTAL	2	17	15	9	8	51

SECTION THREE
ENVIRONMENTAL SETTING

3.1 TOPOGRAPHY

Yeager Airport is situated in Kanawha County approximately 4 miles northeast of Charleston, West Virginia. The Base is situated on top of a mountain in the Appalachian Plateau Physiographic Province. This province is a relatively narrow northeast-southwest band extending from southern New York to southern Alabama (**Figure 3.1**). In general, relief in the plateau ranges from several hundred feet above mean sea level (MSL) to over 1,000 feet.

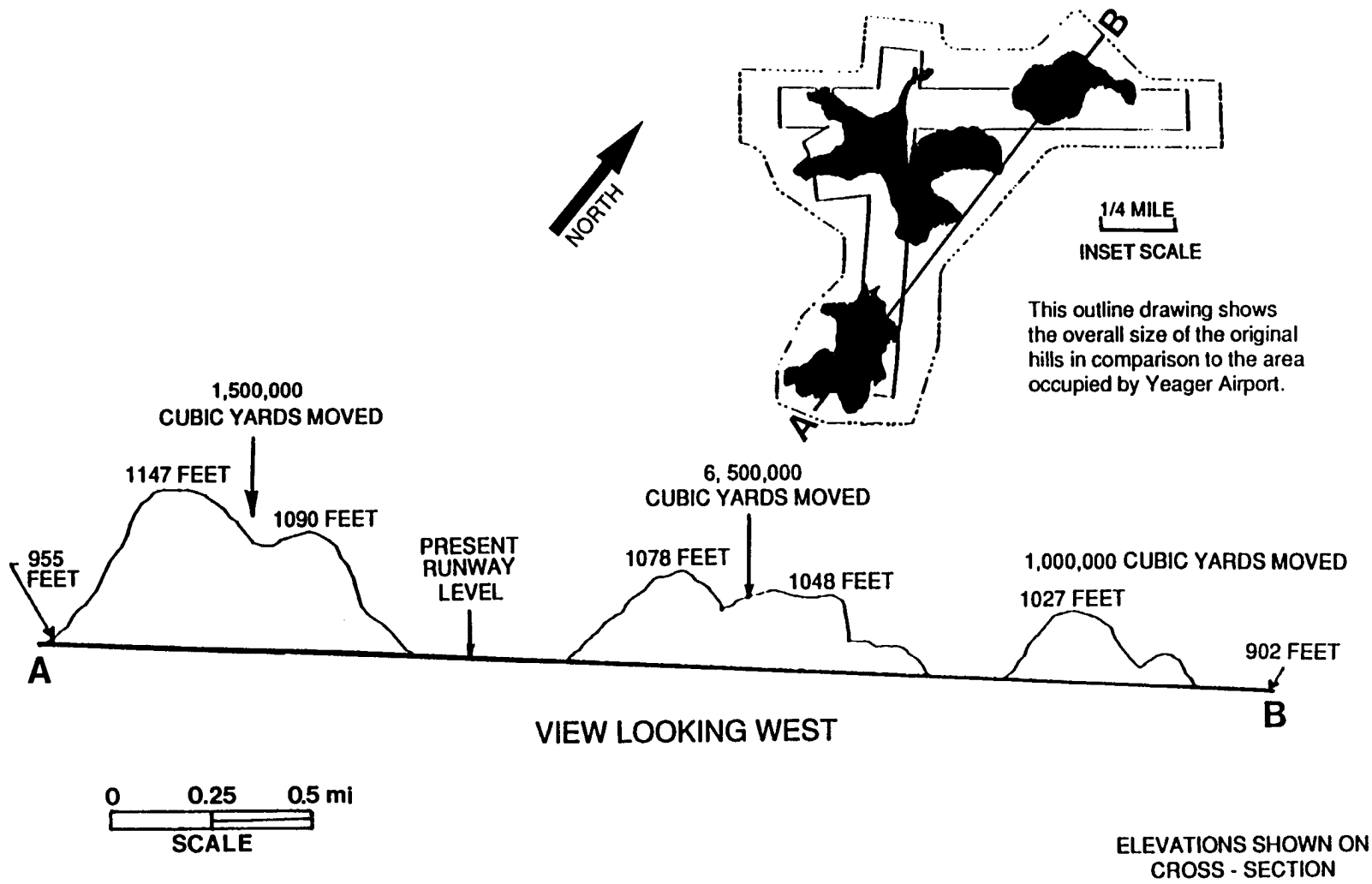
The entire 908 square miles of Kanawha County is hilly to mountainous except along the floodplains of the Elk River and smaller tributaries, which are nearly level. At the Base, the former topography has been modified substantially. The hilltops at the Base have been cut away up to a maximum of 130 vertical feet. The cut material was used as fill at the Base to provide extensive flat surfaces necessary for an airport facility. Base elevation is approximately 945 feet above MSL. Maximum elevation in the immediate area is 1,058 feet MSL. There is approximately 300 to 400 feet in relief from the Base property to surface water drainage (Elk Creek, Elk River, Coonskin Branch). **Figure 3.2** shows the areas of cut and fill within the base property.



PHYSIOGRAPHIC MAP OF WEST VIRGINIA 130th AG, WEST VIRGINIA AIR NATIONAL GUARD YEAGER AIRPORT, CHARLESTON, WEST VIRGINIA

(Source: Mills and other, 1987)

FIGURE 3.1



AREAS OF CUT AND FILL AT THE BASE 130th AG, WEST VIRGINIA
AIR NATIONAL GUARD YEAGER AIRPORT, CHARLESTON, WEST VIRGINIA
(Source: PEER Consultants, 1989)

FIGURE 3.2

3.2 SOILS

The primary soil series at the Base consists of the Udorthents soil complex (UC). As described in Van Houten and others (1981), the UC soil complex consists of nearly level to steep, variably drained Udorthents and Urban land, generally located on upland terraces and flood plains. Aerial extent of this complex consists of approximately 53 acres according to the PA Report. Udorthents consist of moderately deep to deep, well drained soils formed in soil materials that have been disturbed by excavating, cutting, or drilling. The urban land portion of the complex is covered by fill material, streets, parking lots, buildings, and related structures which usually obscure and prevent identification of underlying soils.

The north portion of the Base also contains portions of the Gilpin silt loam phase (GID) and the Clymer-Dekalb soil complex (CDF). The GID is the primary soil phase surrounding the airport and is a major constituent of the UC. The GID is a moderately steep, well drained, moderately deep soils found on ridgetops and benches. Permeability in the Gilpin series ranges from 1.2 to 4 feet per day.

The CDF occupies approximately 6 acres within the vicinity of the Base. The CDF consists of very steep, well drained, moderately deep to deep soils on ridgetops and side slopes. This complex is composed of 40 percent Clymer channery loams and 35 percent DeKalb channery sandy loam, and 25 percent miscellaneous soils. The permeability is 1.2 to 6 feet per day in the Clymer soil and 4 to 40 feet per day in the Dekalb soil.

A map depicting the distribution of the soil series at the Base is presented as **Figure 3.3.**

3.3 GEOLOGY

The stratigraphy underlying the Base is shown in **Figure 3.4.** The uppermost bedrock beneath the Base is the Pennsylvanian age Conemaugh Formation. Middle to Upper Pennsylvanian age rocks form the bedrock in the Charleston area. Locally, the important units are the Charleston Sandstone and the Conemaugh Formation.

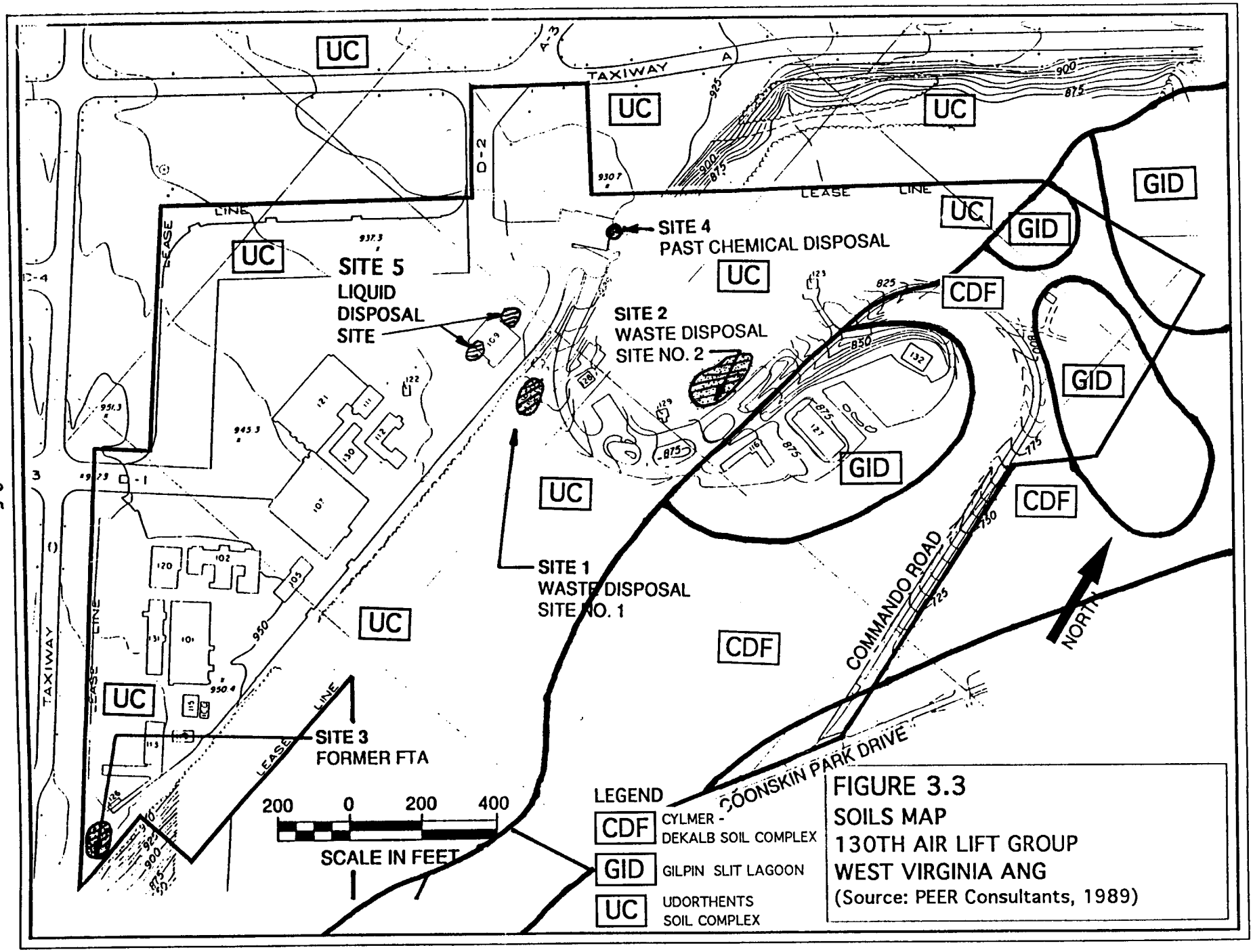
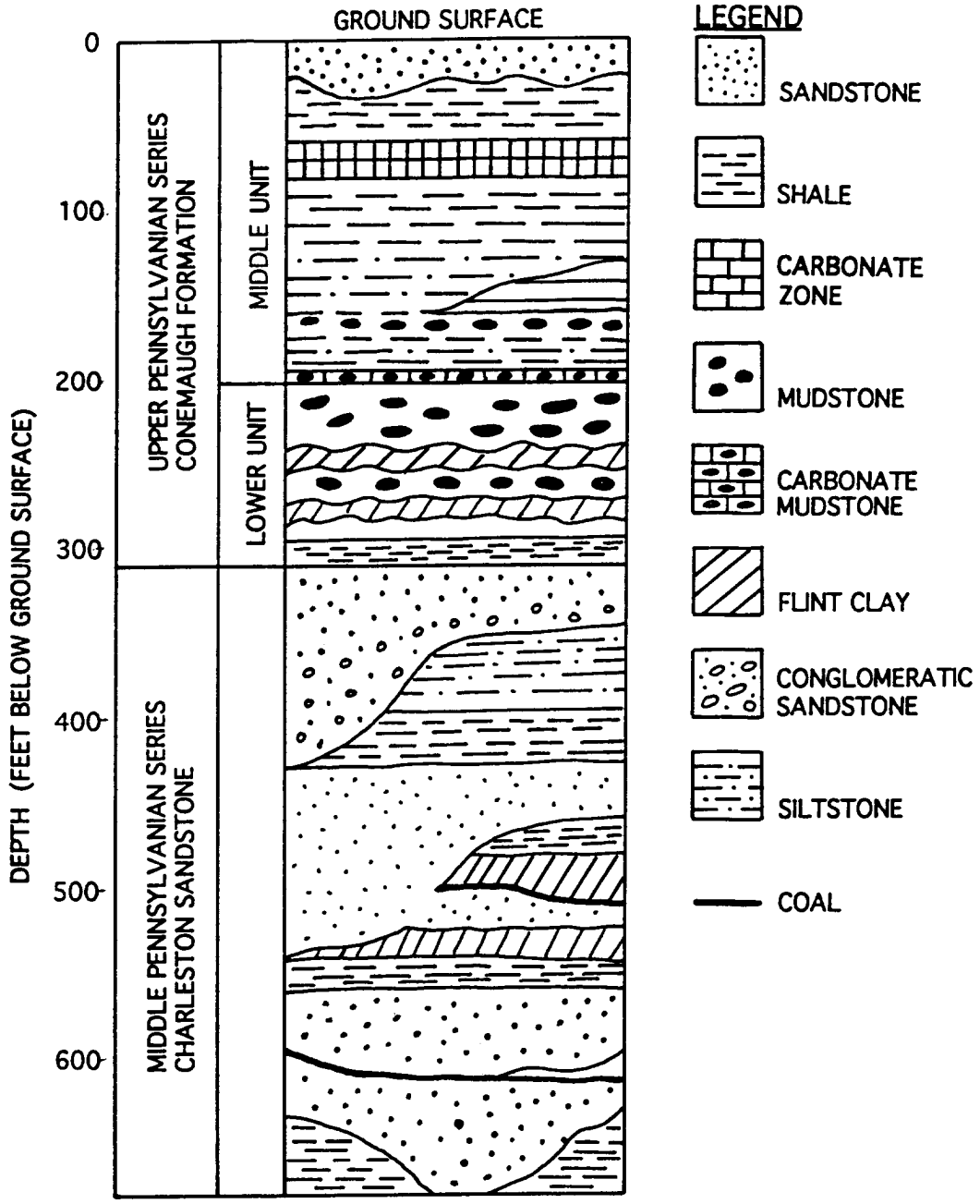


FIGURE 3.3
SOILS MAP
130TH AIR LIFT GROUP
WEST VIRGINIA ANG
(Source: PEER Consultants, 1989)



NOTE: STRATIGRAPHIC SECTION ADAPTED FROM ENGLUND et al 1986

STRATIGRAPHIC SECTION

IN VICINITY OF 130th AG, WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT, CHARLESTON, WEST VIRGINIA

FIGURE 3.4

SCALE: 1" = 100' Vertical 100 80 60 40 20 0 100

Metcalf & Eddy

The Charleston Sandstone is primarily a fine- to coarse-grained, partly conglomeratic, feldspathic sandstone and it is included in the rocks of the Allegheny Group. Thick beds of this sandstone are interrupted by interbeds of siltstone, shale, underclay, coal, and flint clay. Locally, this unit is approximately 367 feet thick (Englund, et al., 1986).

A dark greenish-gray shale marks the gradational contact between the Charleston Sandstone and the overlying Conemaugh Formation. The lower 108 feet of the Conemaugh consist predominantly of grayish-red, greenish-gray, and variegated mudstone that include two extensive flint-clay beds. The base of the middle Conemaugh is marked by a 6.5-foot-thick carbonate mudstone overlain by 193 feet of red and purple shales with calcareous zones, mudstones, and fine sandstones, capped by a massive sandstone. This middle unit is the surficial bedrock at the Yeager Airport. The upper part of the Conemaugh consists largely of variegated grayish-red and greenish-gray, partly calcareous sandstone and shale and is locally 172 feet thick (Englund et al., 1986).

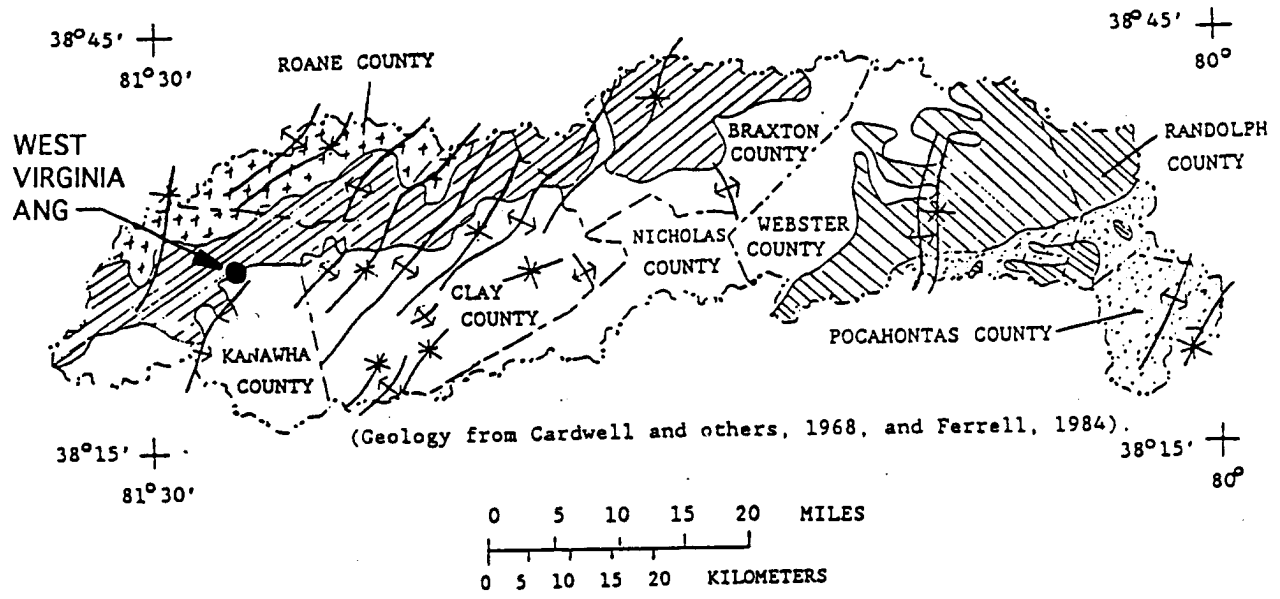
With respect to local geologic structures, the Base is located on the western limb of a northeast-trending anticline in a geologic region characterized by low amplitude folds. In the vicinity of the Base, rocks of the Conemaugh Formation dip gently to the northwest from 10 to 250 feet per mile (Doll et al., 1960). Joints are common in the consolidated rocks within the region. The joints predominantly strike to the northeast and northwest and dip from 60 degrees to 90 degrees (Doll et al., 1960).

A generalized geologic map of the Base vicinity is presented as **Figure 3.5.**

3.4 HYDROLOGY

Surface Water

The Base is located within the Elk River Basin. The Basin is 1,533 square miles in area and is elongated in an east-west direction. The Elk River Basin is underlain by gently northwesterly dipping sedimentary rocks.



LEGEND

Geologic unit	Aquifer	Description
Monongahela Group	Upper Pennsylvanian rocks	Nearly horizontal sedimentary beds, predominantly shale with sandstone, siltstone, coal, and limestone.
Conemaugh Group		
Allegheny Formation	Middle Pennsylvanian rocks	Nearly horizontal sedimentary beds, predominantly sandstone with shale, siltstone, coal, and some limestone. Includes Allegheny Formation and Kanawha and New River Formations of the Pottsville Group.
Pottsville Group	Lower Pennsylvanian rocks	
Mauch Chunk Group and Greenbrier Group undivided	Mississippian rocks	Moderately folded sedimentary beds, predominantly sandstone and limestone with shale.

Anticline

Syncline

FIGURE 3.5
GENERALIZED GEOLOGIC MAP OF THE 130TH AIR LIFT GROUP, WEST VIRGINIA ANG VICINITY

In the vicinity of Yeager Airport, Elk Two Mile Creek (drainage area of 12 square miles) and Coonskin Branch (drainage area of less than 2 square miles) carry the surface water runoff from the Base, as shown in **Figure 3.6**. These drain into the Elk River, a major tributary to the Kanawha River. Site-specific surface water runoff maps are depicted in **Figures 3.7 and 3.8** (in map pocket).

With the exception of Site No. 3, located at the southern extremity of the Base, all surface drainage on Base is directed via interconnecting storm sewers and ditches, or by overland runoff, to the two major topographic draws east of the Base. These two groundwater-recharged draws contain flow throughout most of the year and empty into the northward flowing unnamed tributary of Coonskin Branch. This drainage then flows less than 3,000 feet to the confluence with Elk River. Surface drainage from Site No. 3 could possibly enter Elk Two Mile Creek, via overland runoff of about 2,000 feet. From this point on Elk Two Mile Creek, drainage flows about 13,000 feet before reaching Elk River.

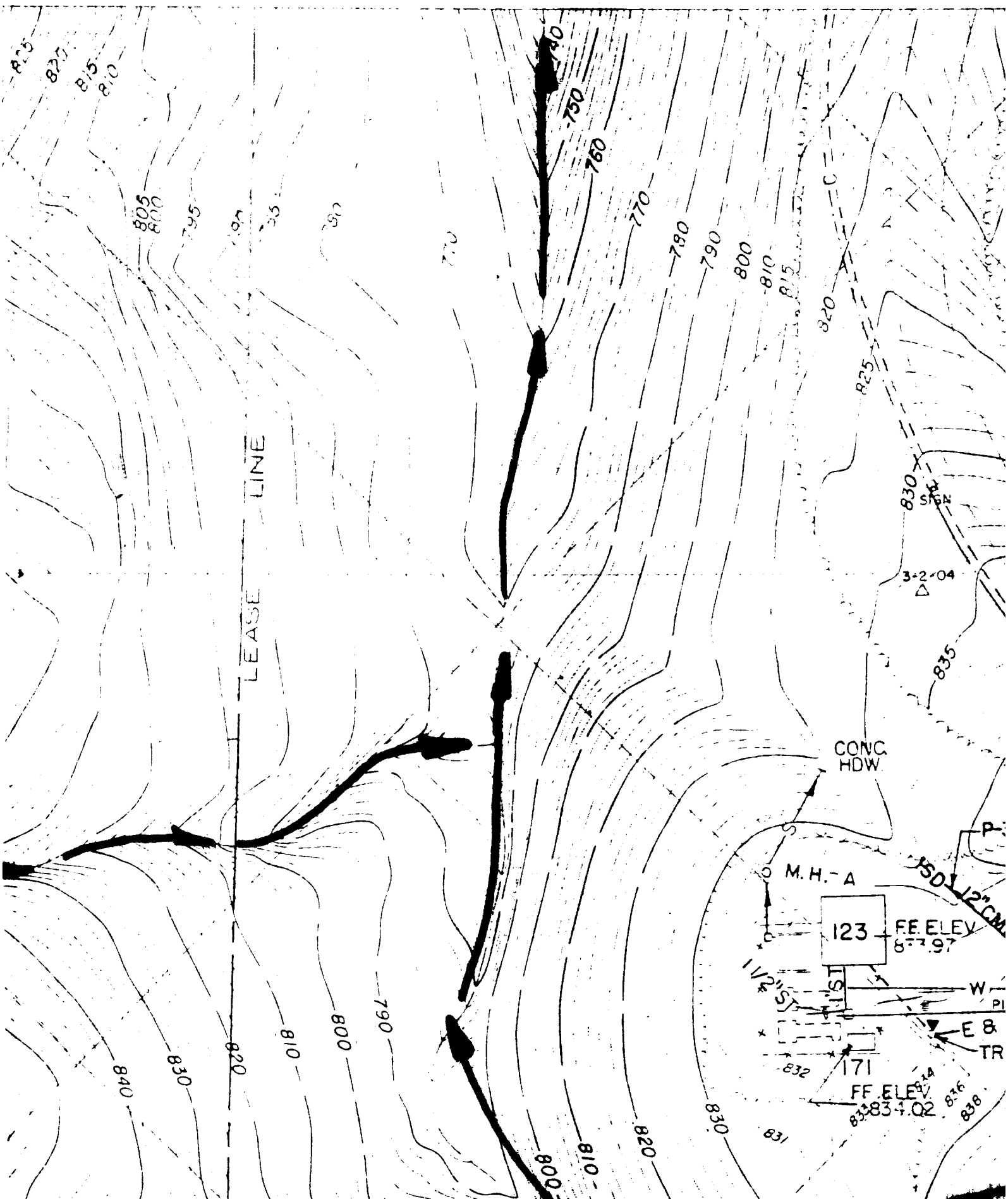
Approximately 80,000 people live in the Elk River Basin, half of whom live in the Charleston area. Domestic water use is estimated at 3.5 million gallons per day (gpd). Surface water is the source of most domestic water in the basin. The water intake for Charleston and the Base is located on the Elk River 1.5 miles upstream from its confluence with the Kanawha River and about 1.5 miles downstream from Yeager Airport. Rural areas of the basin not using municipal water are dependent on groundwater.

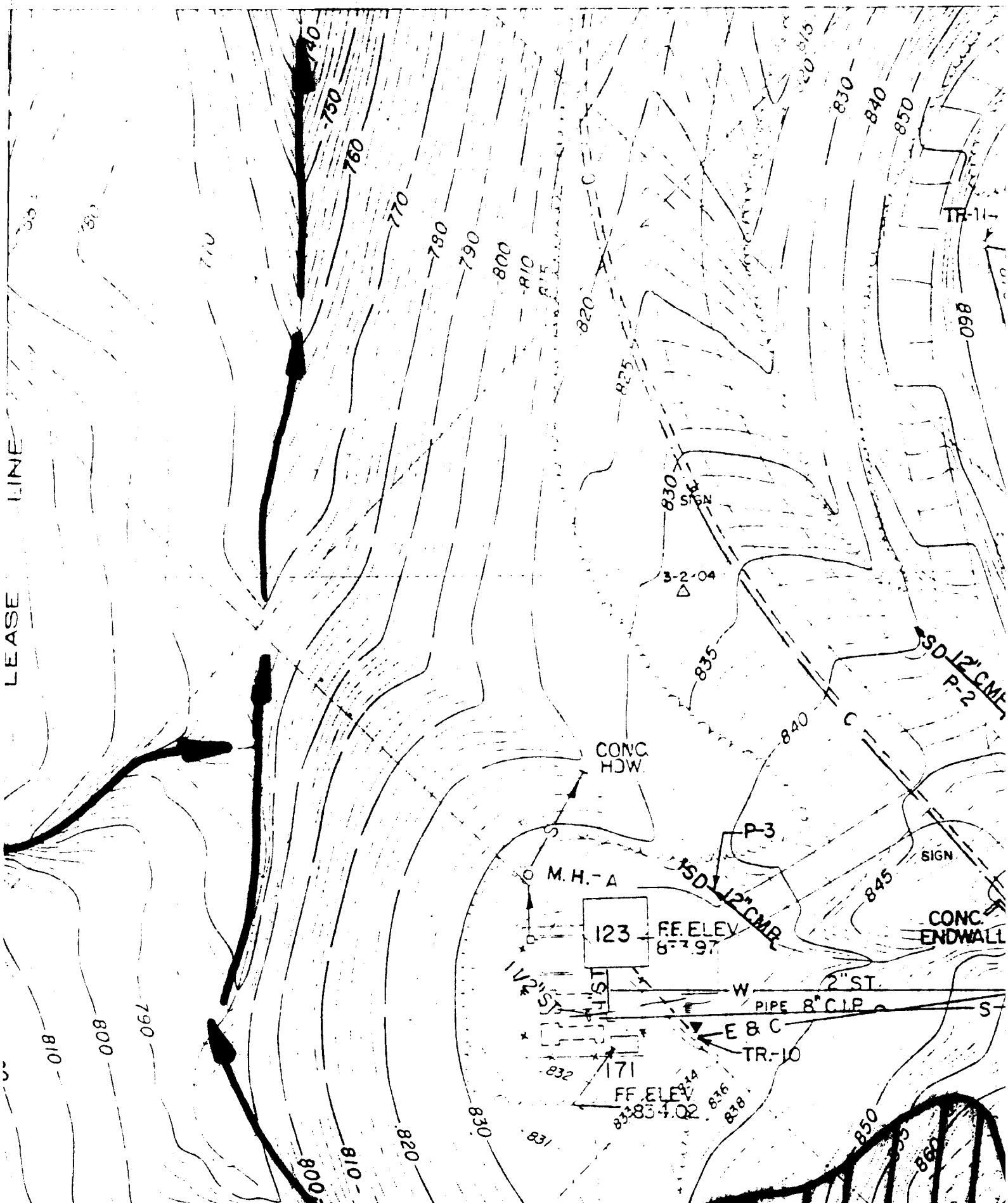
Groundwater

There are two major types of aquifers present within the Basin, unconsolidated alluvial deposits and sedimentary bedrock. The alluvial aquifers tend to have limited areal extent and a maximum thickness of less than 30 feet (Ferrell, 1984) and are therefore a relatively minor water source in the region. Movement of groundwater in the bedrock is primarily through fractures, joints, and bedding planes separations (Mathes & Ward, 1990). Due to the absence of groundwater to the depths drilled during the SI (with the exception of background location WVBMW01), specific groundwater flow directions at each site could not be

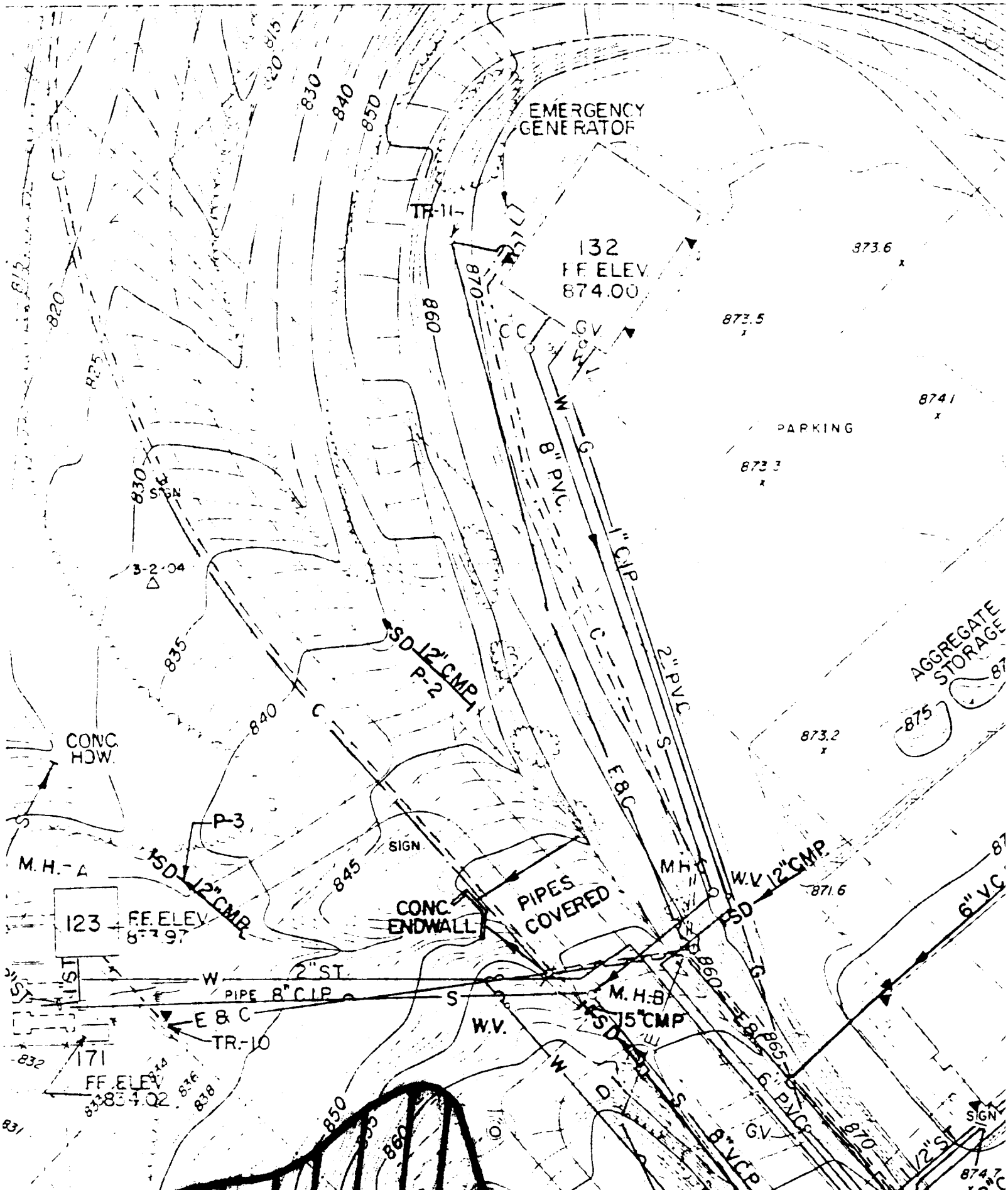

81° 35' 00"
38°22' 30"
FIGURE 3.6
SURFACE WATER RUNOFF MAP
130th AG, WV AIR NATIONAL GUARD
YEAGER AIRPORT, CHARLESTON, WV
(Source: USGS Charleston East and
Big Chimney 7.5 minutes series
topographic maps, 1976)
KEY
Direction of
Streamflow
81°35' 00"
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

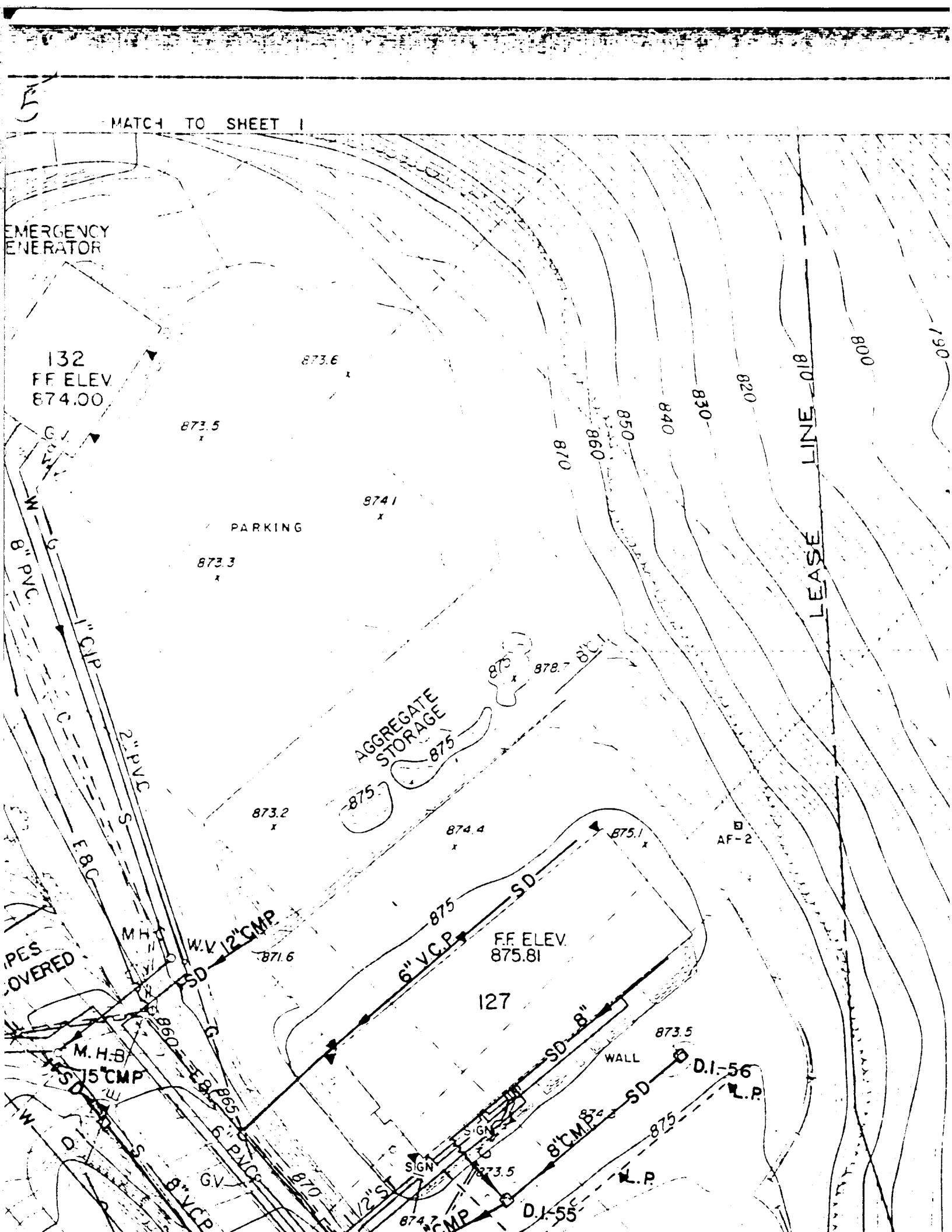
875
860
855
850
845
840
835
830
825
820
815
810
805
800
795
790
BRUSH
E1,831,000
6638
N502,000
880
875
BRUSH
BRUSH
885
850
865
860
870
875
880
885
890
840
830
820

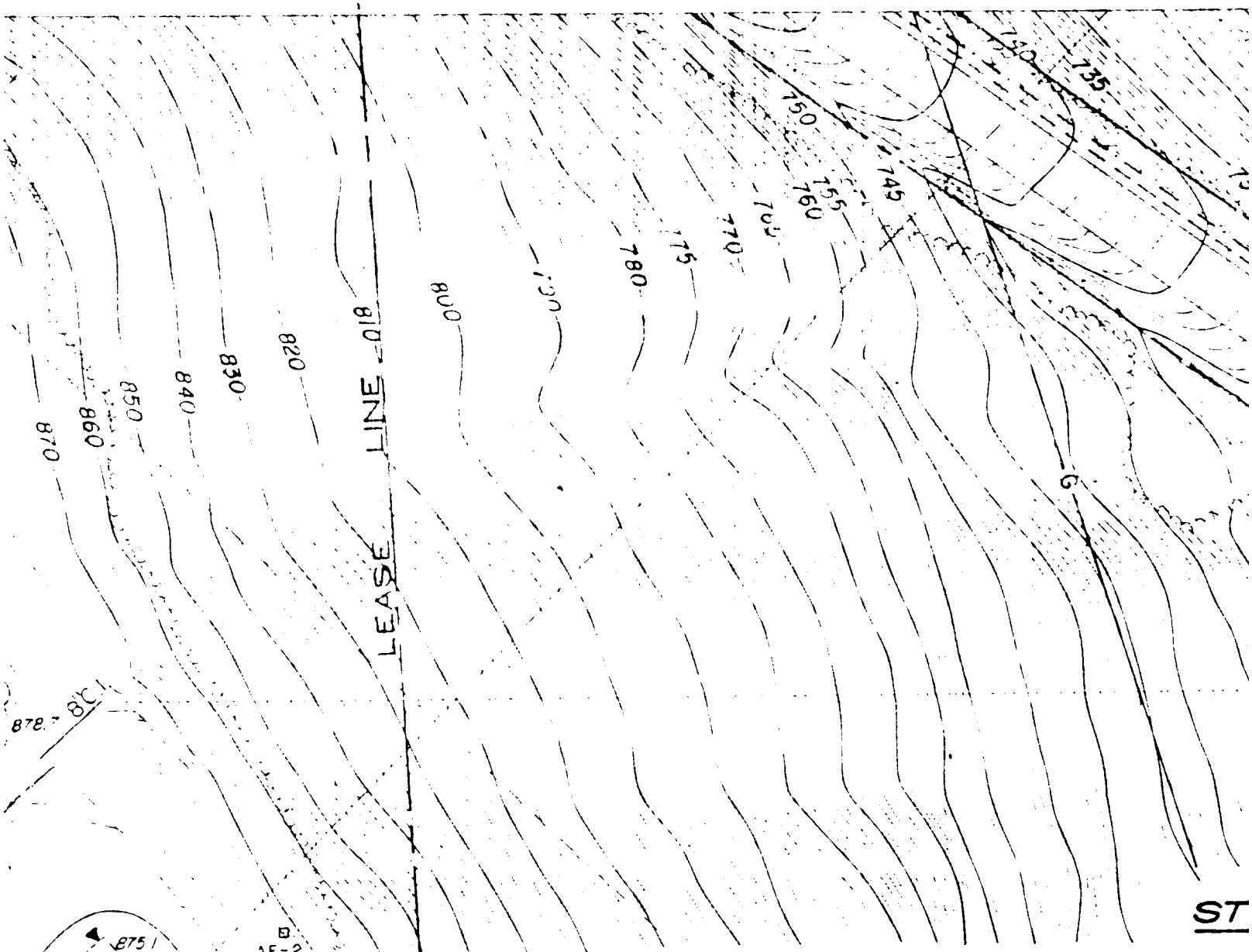

LEASE LINE
CONC HDW
M.H.-A
123
F.F. ELEV
171
FF ELEV
3+2.04
825
830
835
840
820
810
800
790
780
770
760
750
805
815
831
832


LEASE LINE
740
750
760
770
780
790
800
810
820
830
840
850
860
TR-11
SIGN
3-2-04
SD 12" CMP
P-2
CONC HDW
P-3
M.H.-A
123
F.F. ELEV
SD 12" CMP
SIGN
CONC. ENDWALL
1 1/2" ST
W
2" ST
PIPE 8" C.I.P.
S
E & C
TR-10
171
FF ELEV
834.02
831
832
836
838

4

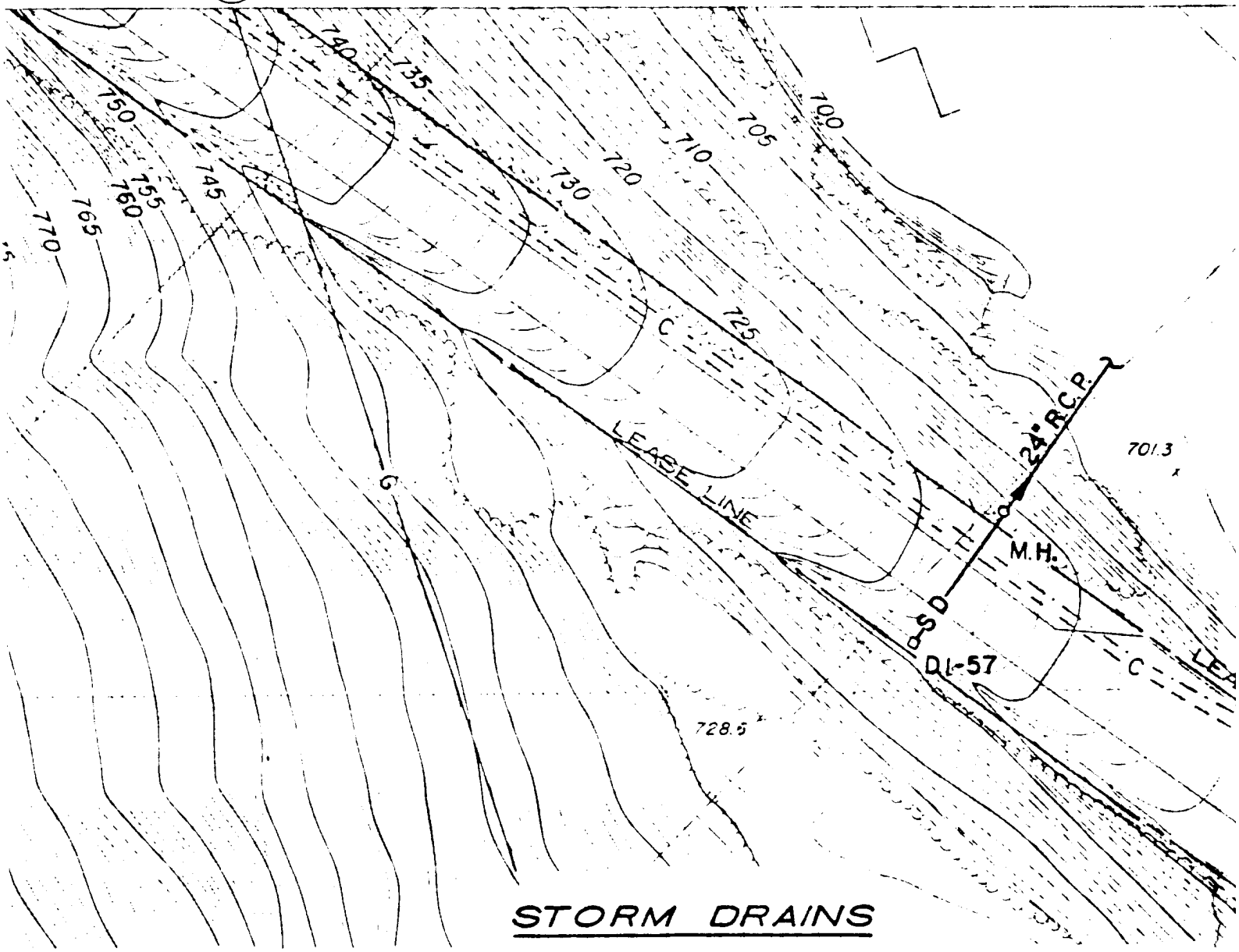

MATCH TO SHEET 1
EMERGENCY GENERATOR
TR-11
132
F.F. ELEV.
874.00
873.6
873.5
874.1
PARKING
873.3
8" PVC
1" C.I.P.
2" PVC
F.B.C.
AGGREGATE STORAGE
875
873.2
SIGN
3-2-04
SD 12" CMP.
P-2
CONC. HDW.
P-3
M.H.-A
123
F.F. ELEV.
877.97
SIGN
845
CONC. ENDWALL
PIPES COVERED
M.H.-B
W.V. 12" CMP.
871.6
6" VC
2" ST.
PIPE 8" C.I.P.
E & C
TR-10
W.V.
15" CMP
171
F.F. ELEV.
832.02
8" PVCP
G.V.
SIGN
874.7
12" ST.
850
860
870
840
830
820
835
825
831
832
836
838


MATCH TO SHEET 1
EMERGENCY GENERATOR
132
FF ELEV
874.00
873.6
873.5
874.1
PARKING
873.3
W
G
8" PVC
1" C.I.P
2" PVC
AGGREGATE STORAGE
875
878.7
873.2
874.4
875.1
AF-2
F.B.C
875
SD
6" V.C.P
F.F. ELEV.
875.81
127
MH
W.V
12" CMP
871.6
860
865
M.H.B
15" CMP
6" PVC
GV
870
8" V.C.P
1 1/2" ST
874.7
CMP
D.I.-55
873.5
WALL
8
D.I.-56
L.P
8" CMP
SIGN
LEASE LINE
810
820
830
840
850
860
870
800
790



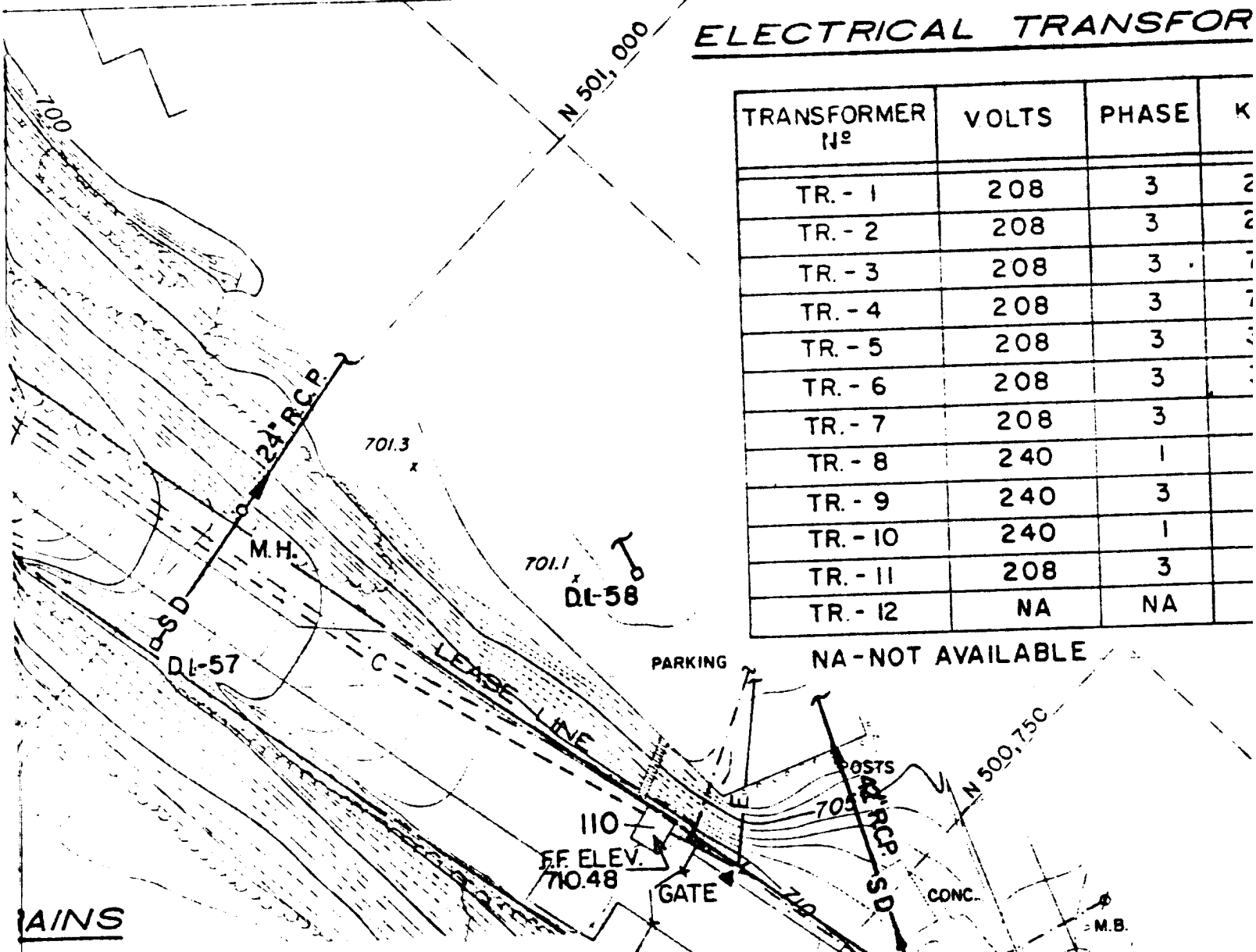
DROP INLET Nº	TOP ELEV.	INVERT ELEV.	DROP INLET
D.I.-1	804.50	803.83	D.I.-3
D.I.-2	923.34	920.34	D.I.-3
D.I.-3	933.20	922.20	D.I.-3
D.I.-4	931.68	922.18	D.I.-3
D.I.-5	932.81	928.81	D.I.-3
D.I.-6	935.87	931.67	D.I.-3
D.I.-7	937.07	930.57	D.I.-3
D.I.-8	937.24	933.24	D.I.-4
D.I.-9	936.30	931.90	D.I.-4
D.I.-10	937.02	932.82	D.I.-4
D.I.-11	939.18	934.68	D.I.-4

(1)



STORM DRAINS

DROP INLET Nº	TOP ELEV.	INVERT ELEV.	DROP INLET Nº	TOP ELEV.	INVERT ELEV.	PIPE Nº	INLET INV. ELEV.
D.I.-1	804.50	803.83	D.I.-33	936.04	925.95	P-1	803.83
D.I.-2	923.34	920.34	D.I.-34	938.25	931.05	P-2	843.70
D.I.-3	933.20	922.20	D.I.-35	940.49	933.20	P-3	836.50
D.I.-4	931.68	922.18	D.I.-36	940.76	936.49		
D.I.-5	932.81	928.81	D.I.-37	942.56	938.85	P-5	869.67
D.I.-6	935.87	931.67	D.I.-38	944.31	940.71		
D.I.-7	937.07	930.57	D.I.-39	944.78	942.11		
D.I.-8	937.24	933.24	D.I.-40	942.71	935.32		
D.I.-9	936.30	931.90	D.I.-41	942.67	935.27		
D.I.-10	937.02	932.82	D.I.-42	944.38	939.91		
D.I.-11	939.18	934.68	D.I.-43	944.65	941.10	P-11	920.34



ELECTRICAL TRANSFOR

TRANSFORMER Nº	VOLTS	PHASE	K
TR. - 1	208	3	
TR. - 2	208	3	
TR. - 3	208	3	
TR. - 4	208	3	
TR. - 5	208	3	
TR. - 6	208	3	
TR. - 7	208	3	
TR. - 8	240	1	
TR. - 9	240	3	
TR. - 10	240	1	
TR. - 11	208	3	
TR. - 12	NA	NA	

NA - NOT AVAILABLE

AINS

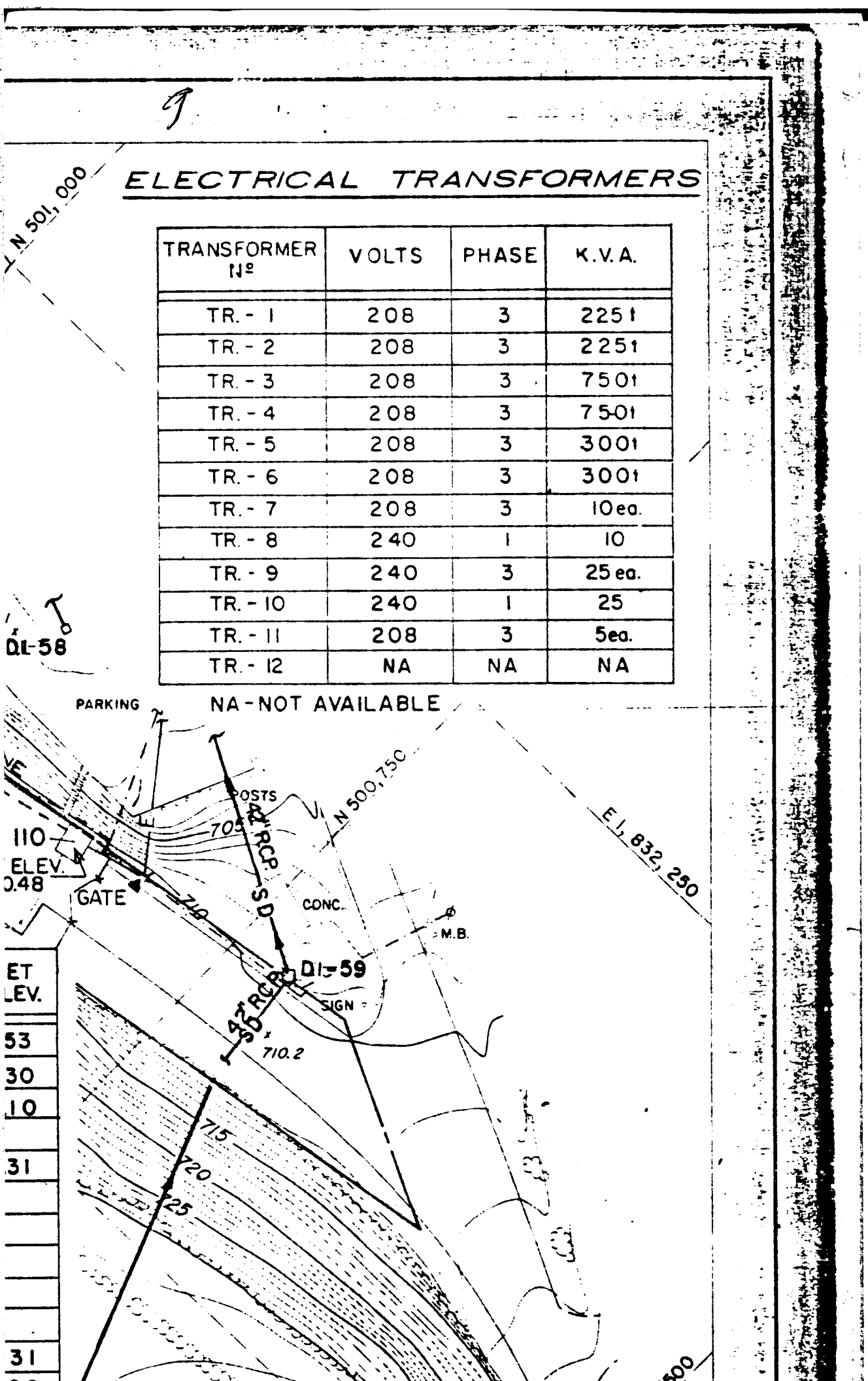
INVERT ELEV.	PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV.
925.95	P - 1	803.83	800.53
931.05	P - 2	843.70	838.30
933.20	P - 3	836.50	832.10
936.49			
938.85	P - 5	869.67	866.31
940.71			
942 .11			
935.32			
935.27			
939.91			
941.10	P - 11	920.34	895.31

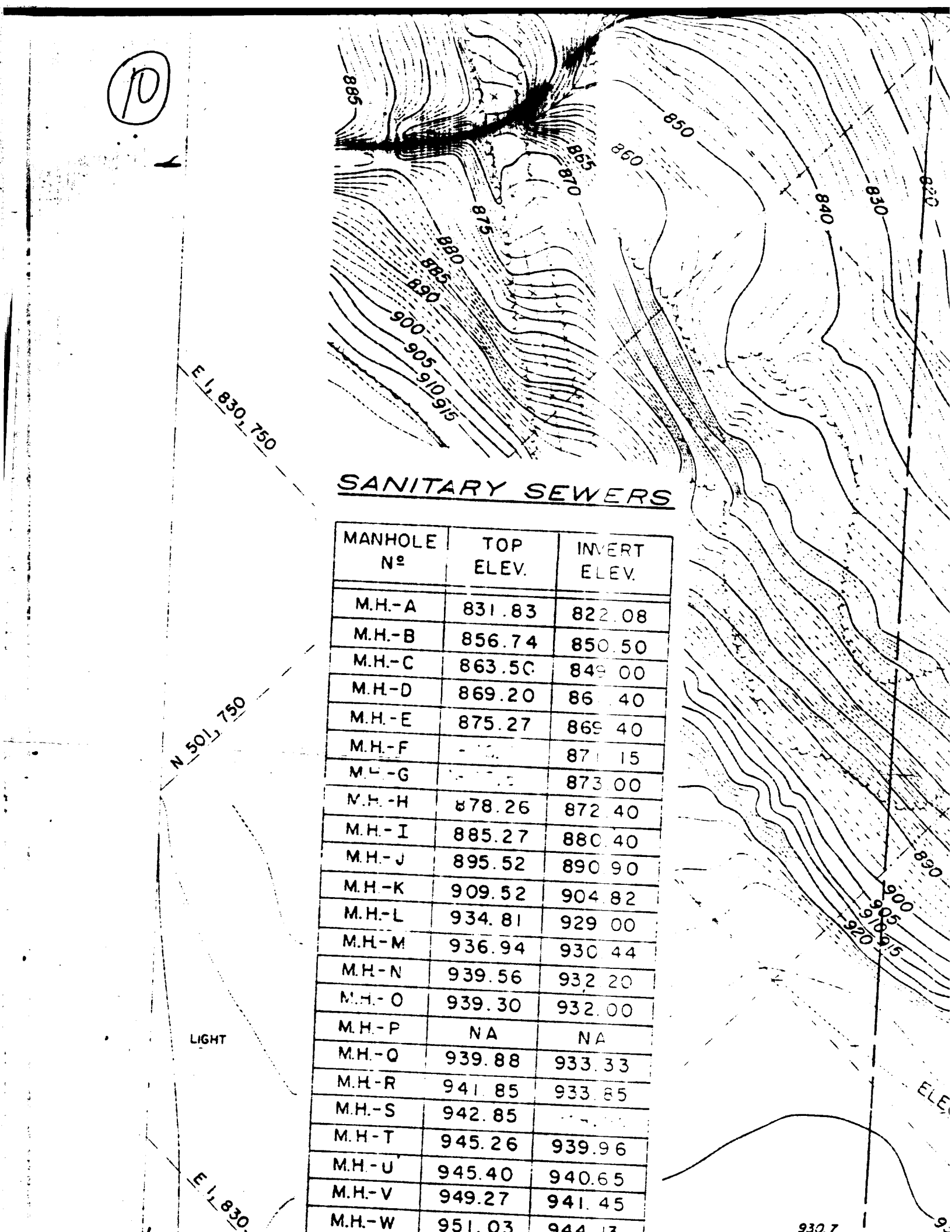
9

ELECTRICAL TRANSFORMERS

TRANSFORMER Nº	VOLTS	PHASE	K.V.A.
TR. - 1	208	3	225 1
TR. - 2	208	3	225 1
TR. - 3	208	3	750 1
TR. - 4	208	3	750 1
TR. - 5	208	3	300 1
TR. - 6	208	3	300 1
TR. - 7	208	3	10 ea.
TR. - 8	240	1	10
TR. - 9	240	3	25 ea.
TR. - 10	240	1	25
TR. - 11	208	3	5 ea.
TR. - 12	NA	NA	NA

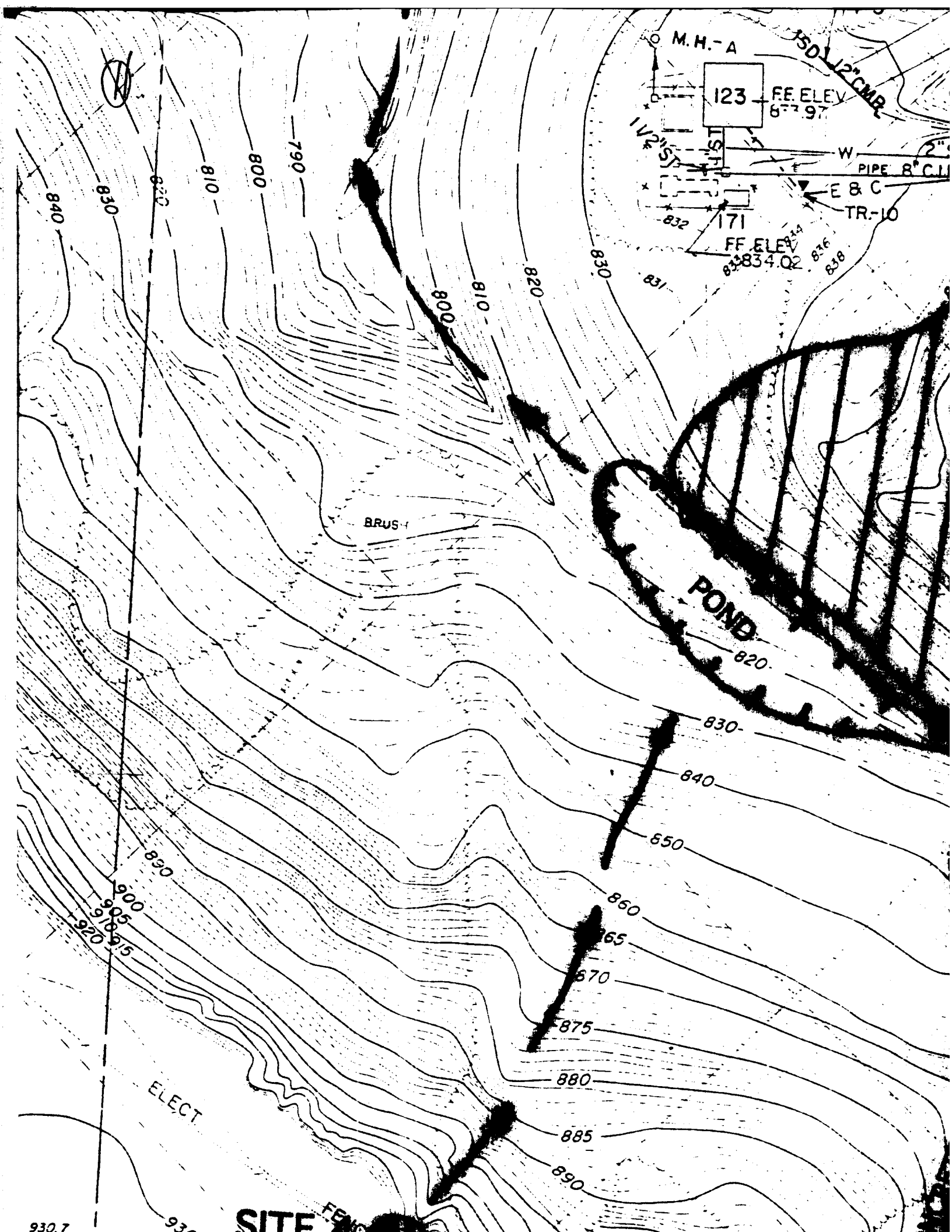
NA - NOT AVAILABLE

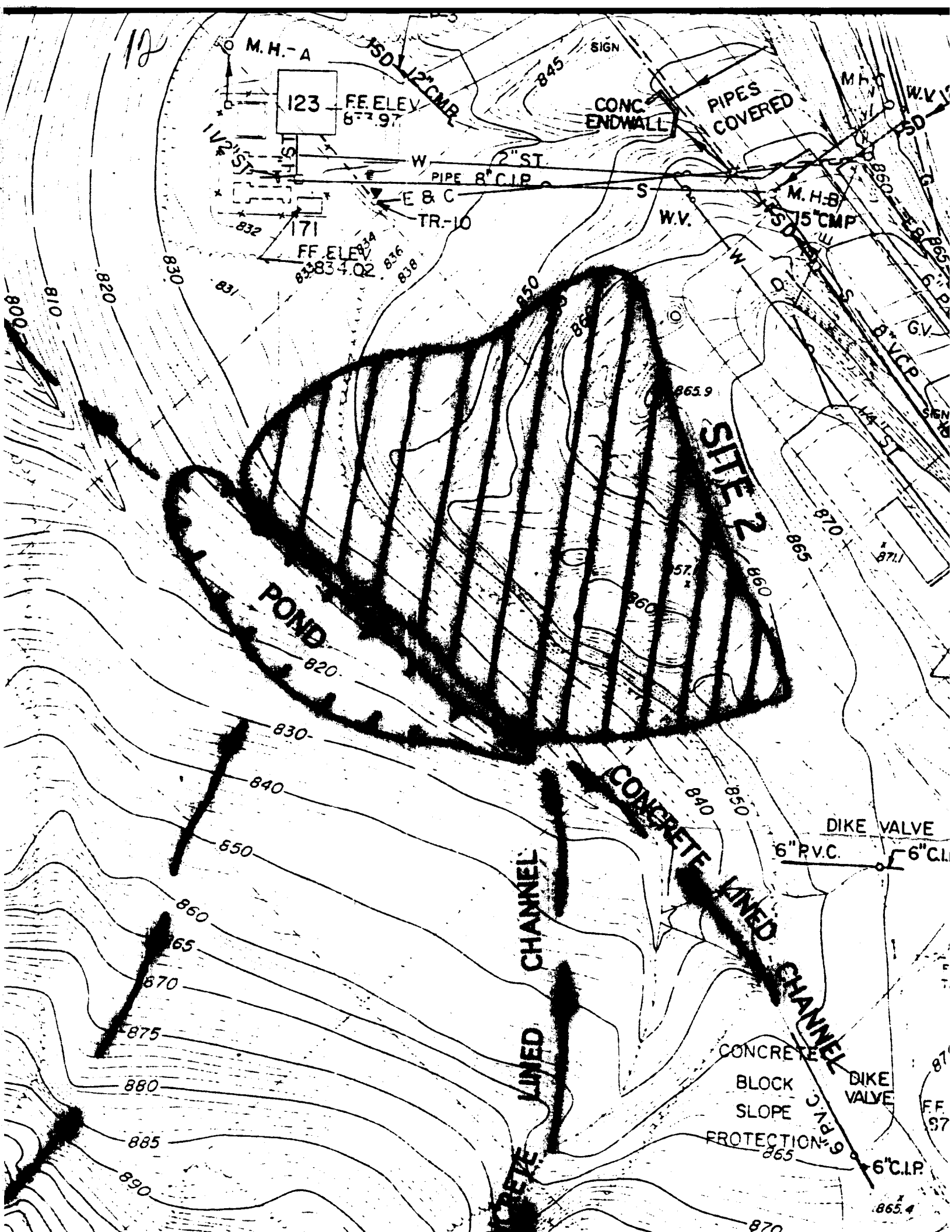


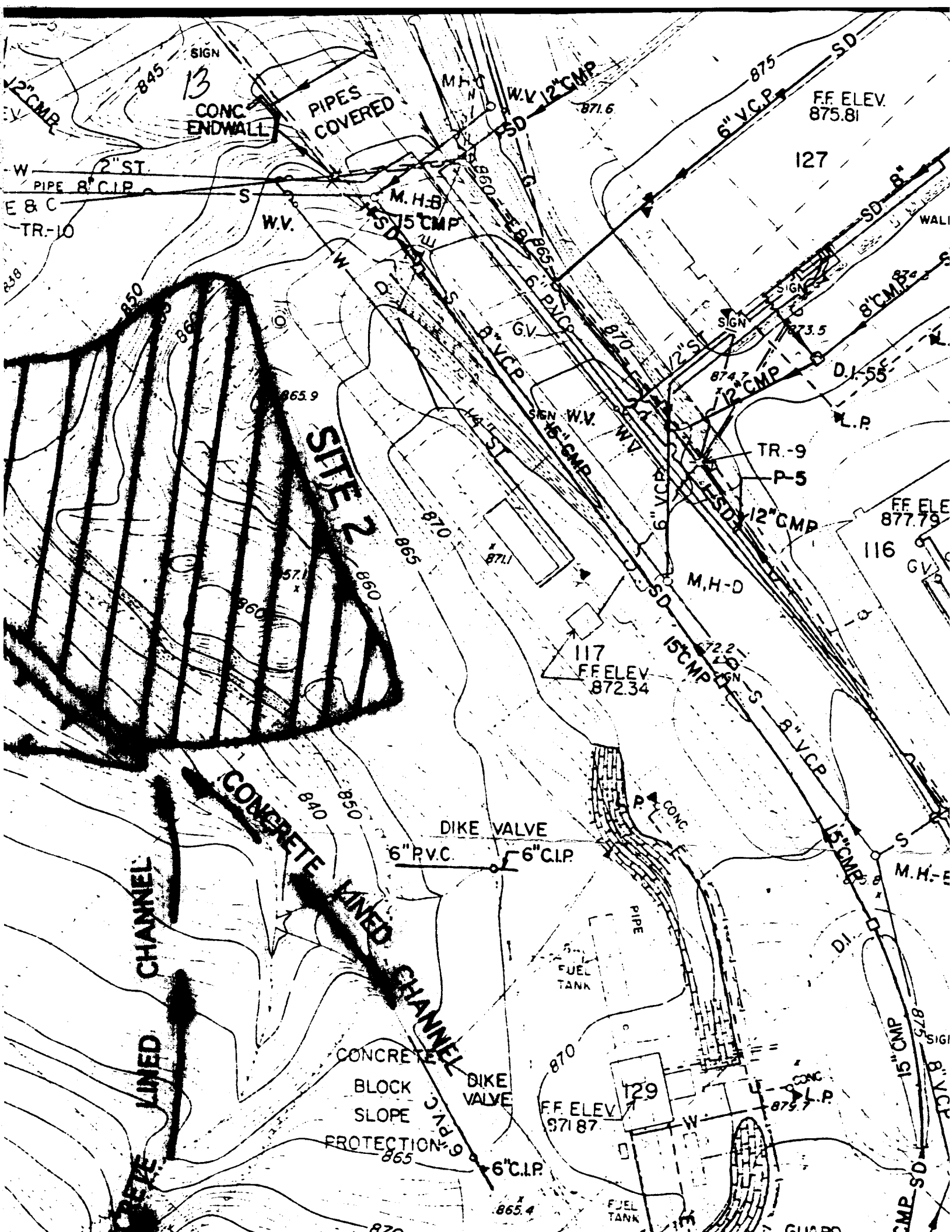


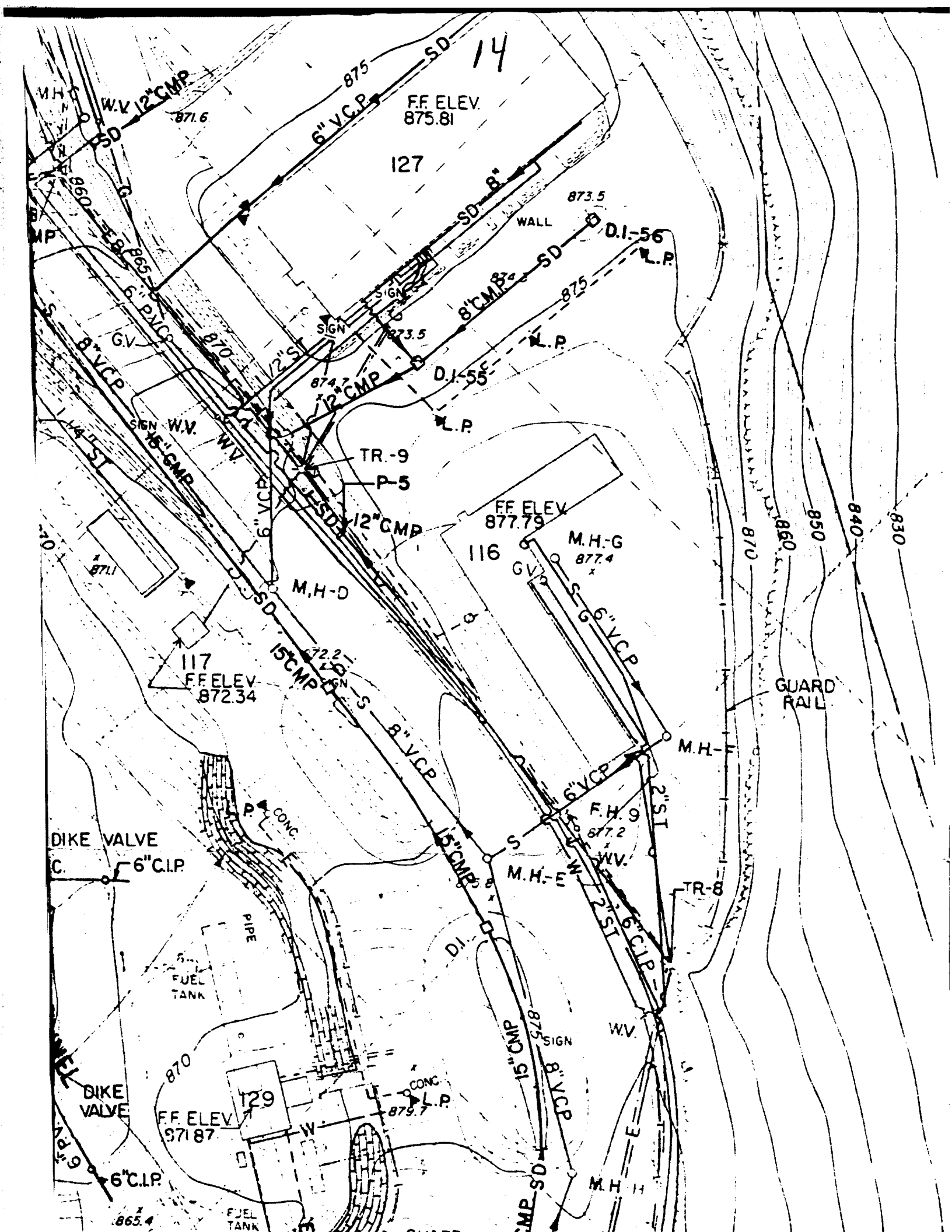
SANITARY SEWERS

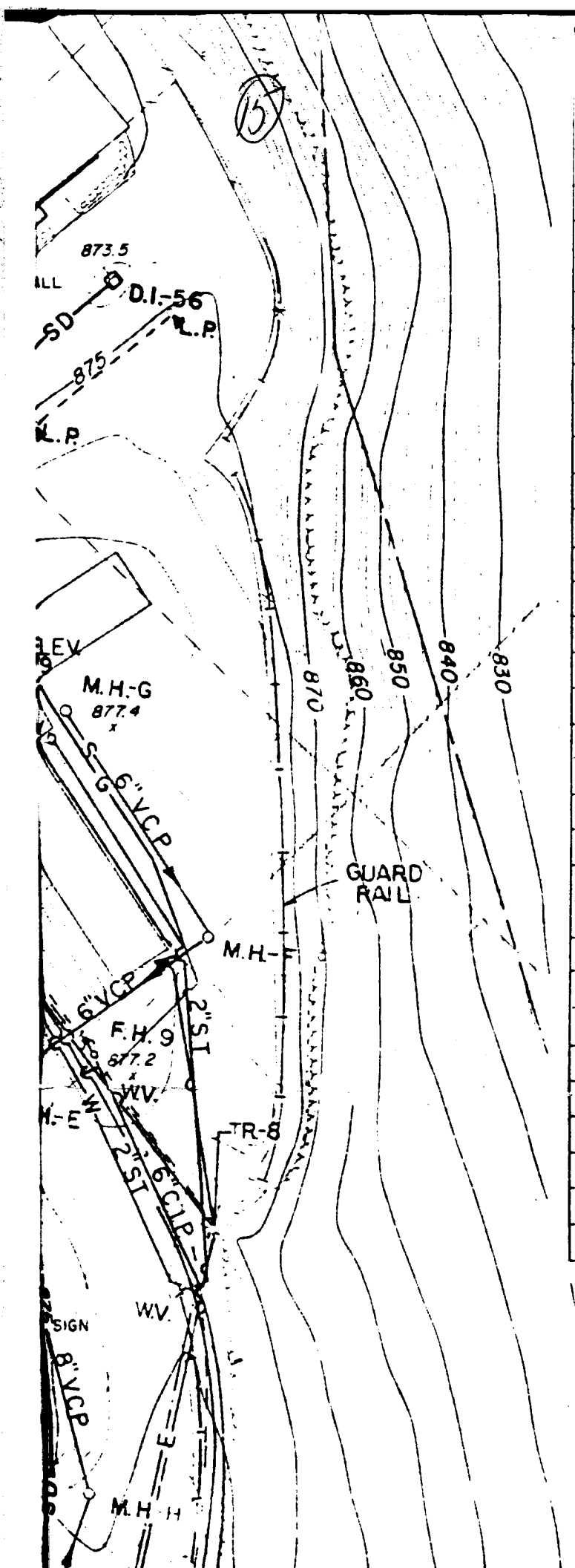
MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.50	849.00
M.H.-D	869.20	86 40
M.H.-E	875.27	869 40
M.H.-F	-	87 15
M.H.-G	-	873.00
M.H.-H	878.26	872 40
M.H.-I	885.27	880 40
M.H.-J	895.52	890 90
M.H.-K	909.52	904 82
M.H.-L	934.81	929 00
M.H.-M	936.94	930 44
M.H.-N	939.56	932 20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.88	933.33
M.H.-R	941.85	933.85
M.H.-S	942.85	-
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13


M.H.-A
123
F.F. ELEV
1V2"ST
W
PIPE 8" C.I.
E & C
TR.-10
171
FF ELEV
834.02
POND
BRUSH
ELECT
SITE
840
830
820
810
800
790
890
900
905
910
915
920
850
860
865
870
875
880
885
890


M.H.-A
123
F.E. ELEV
SIGN
CONC. ENDWALL
PIPES COVERED
M.H.-B
W.V.
2" ST.
PIPE 8" C.I.P.
E & C
TR.-10
171
FF ELEV
SITE 2
POND
CONCRETE LINED CHANNEL
DIKE VALVE
6" P.V.C.
6" C.I.P.
CONCRETE BLOCK SLOPE PROTECTION
8" V.C.P.
G.V.


SIGN
13
CONC. ENDWALL
PIPES COVERED
M.H.-C
W.V.
12"CMP
SD
875
6" V.C.P.
F.F. ELEV. 875.81
127
871.6
2" ST.
PIPE 8" C.I.P.
E & C
TR.-10
W.V.
M.H.-B
15"CMP
6" P.V.C.
8" V.C.P.
G.V.
SITE 2
865.9
870
865
860
850
840
871.1
872.2
117
F.F. ELEV. 872.34
M.H.-D
15"CMP
8" V.C.P.
TR.-9
P-5
12"CMP
F.F. ELE 877.79
116
G.V.
D.I.-55'
L.P.
8"CMP
873.5
874.7
12" ST.
14" ST.
DIKE VALVE
6" P.V.C.
6" C.I.P.
CONC. L.P.
M.H.-E
D.I.
PIPE
FUEL TANK
CONCRETE LINED CHANNEL
CONCRETE BLOCK SLOPE PROTECTION
DIKE VALVE
6" P.V.C.
6" C.I.P.
865.4
129
F.F. ELEV. 871.87
875.7
15"CMP
8" V.C.P.
FUEL TANK


14
F.F. ELEV. 875.81
127
6" V.C.P.
SD
875
W.V. 12"CMP
871.6
MH
860
865
6" PVC
8" V.C.P.
G.V.
870
12" S.I.
873.5
WALL
D.I.-56
L.P.
8"CMP
874.7
12"CMP
D.I.-55
SIGN
TR.-9
P-5
12"CMP
F.F. ELEV 877.79
116
M.H.-G
877.4
GV
6" V.C.P.
GUARD RAIL
M.H.-F
M.H.-D
871.1
117
F.F. ELEV 872.34
872.2
15"CMP
8" V.C.P.
6" V.C.P.
F.H. 9
877.2
W.V.
2" S.I.
M.H.-E
TR-8
6" C.I.P.
DIKE VALVE
6" C.I.P.
CONC.
PIPE
FUEL TANK
DIKE VALVE
129
F.F. ELEV 871.87
879.7
865.4
875
878
M.H.
870
840
830
850
860



DROP INLET Nº	TOP ELEV.	INVERT ELEV.
D.I.-1	804.50	803.83
D.I.-2	923.34	920.34
D.I.-3	933.20	922.20
D.I.-4	931.68	922.18
D.I.-5	932.81	928.81
D.I.-6	935.87	931.67
D.I.-7	937.07	930.57
D.I.-8	937.24	933.24
D.I.-9	936.30	931.90
D.I.-10	937.02	932.82
D.I.-11	939.18	934.68
D.I.-12	943.03	938.58
D.I.-13	945.42	938.17
D.I.-14	948.22	943.92
D.I.-15	949.79	947.69
D.I.-16	949.49	946.99
D.I.-17	949.96	947.46
D.I.-18	944.64	938.64
D.I.-19	944.21	940.11
D.I.-20	949.73	947.94
D.I.-21	950.61	948.11
D.I.-22	951.43	949.61
D.I.-23	952.93	951.43
D.I.-24	947.23	942.45
D.I.-25	948.56	946.46
D.I.-26	933.59	923.86
D.I.-27	927.56	925.14
D.I.-28	939.70	937.03
D.I.-29	942.17	936.84
D.I.-30	940.22	938.20
D.I.-31	940.14	938.14
D.I.-32	940.37	938.19

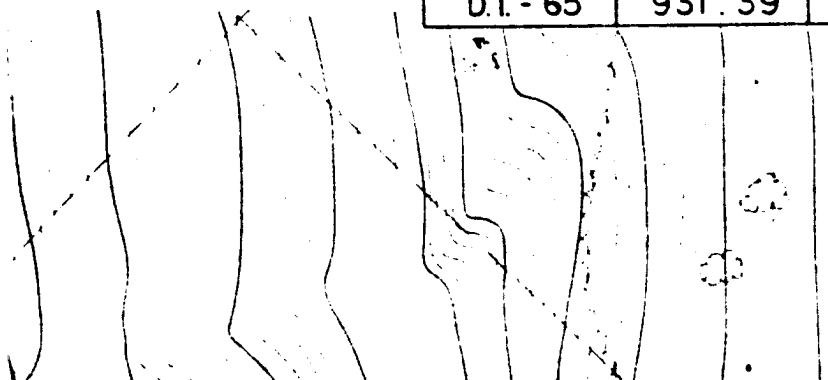
DROP INLET Nº	E
D.I.-33	93
D.I.-34	93
D.I.-35	94
D.I.-36	94
D.I.-37	94
D.I.-38	94
D.I.-39	94
D.I.-40	94
D.I.-41	94
D.I.-42	94
D.I.-43	94
D.I.-44	94
D.I.-45	94
D.I.-46	94
D.I.-47	94
D.I.-48	95
D.I.-49	95
D.I.-50	95
D.I.-51	95
D.I.-52	95
D.I.-53	95
D.I.-54	95
D.I.-55	87
D.I.-56	87
D.I.-57	71
D.I.-58	69
D.I.-59	70
D.I.-60	
D.I.-61	94
D.I.-62	94
D.I.-63	95
D.I.-64	95
D.I.-65	93

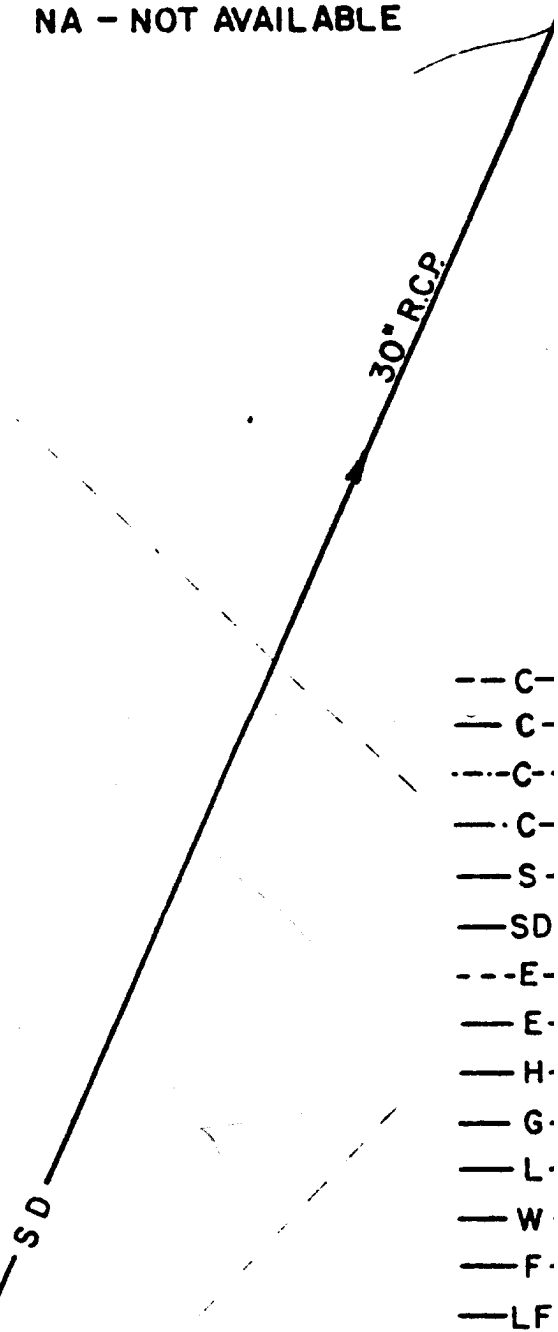
TOP ELEV.	INVERT ELEV.
804.50	803.83
923.34	920.34
933.20	922.20
931.68	922.18
932.81	928.81
935.87	931.67
937.07	930.57
937.24	933.24
936.30	931.90
937.02	932.82
939.18	934.68
943.03	938.58
945.42	938.17
948.22	943.92
949.79	947.69
949.49	946.99
949.96	947.46
944.64	938.64
944.21	940.11
949.73	947.94
950.61	948.11
951.43	949.61
952.93	951.43
947.23	942.45
948.56	946.46
933.59	923.86
927.56	925.14
939.70	937.03
942.17	936.84
940.22	938.20
940.14	938.14
940.37	938.19

DROP INLET Nº	TOP ELEV.	INVERT ELEV.
D.I.-33	936.04	925.95
D.I.-34	938.25	931.05
D.I.-35	940.49	933.20
D.I.-36	940.76	936.49
D.I.-37	942.56	938.85
D.I.-38	944.31	940.71
D.I.-39	944.78	942.11
D.I.-40	942.71	935.32
D.I.-41	942.67	935.27
D.I.-42	944.38	939.91
D.I.-43	944.65	941.10
D.I.-44	944.41	940.51
D.I.-45	945.14	941.74
D.I.-46	945.49	941.64
D.I.-47	947.79	943.54
D.I.-48	951.16	946.06
D.I.-49	952.76	949.11
D.I.-50	952.74	950.07
D.I.-51	955.32	952.72
D.I.-52	957.27	954.77
D.I.-53	955.71	954.21
D.I.-54	955.71	954.38
D.I.-55	873.17	869.17
D.I.-56	873.21	870.79
D.I-57	717.11	713.40
D.I.-58	699.97	698.16
D.I.-59	705.99	702.49
D.I.-60	NA	NA
D.I.-61	942.08	939.41
D.I.-62	943.56	943.23
D.I.-63	954.40	952.22
D.I.-64	953.93	952.43
D.I.-65	931.39	926.39

PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV.
P-1	803.83	800.53
P-2	843.70	838.30
P-3	836.50	832.10
P-5	869.67	866.31
P-11	920.34	895.31
P-12	938.17	937.26

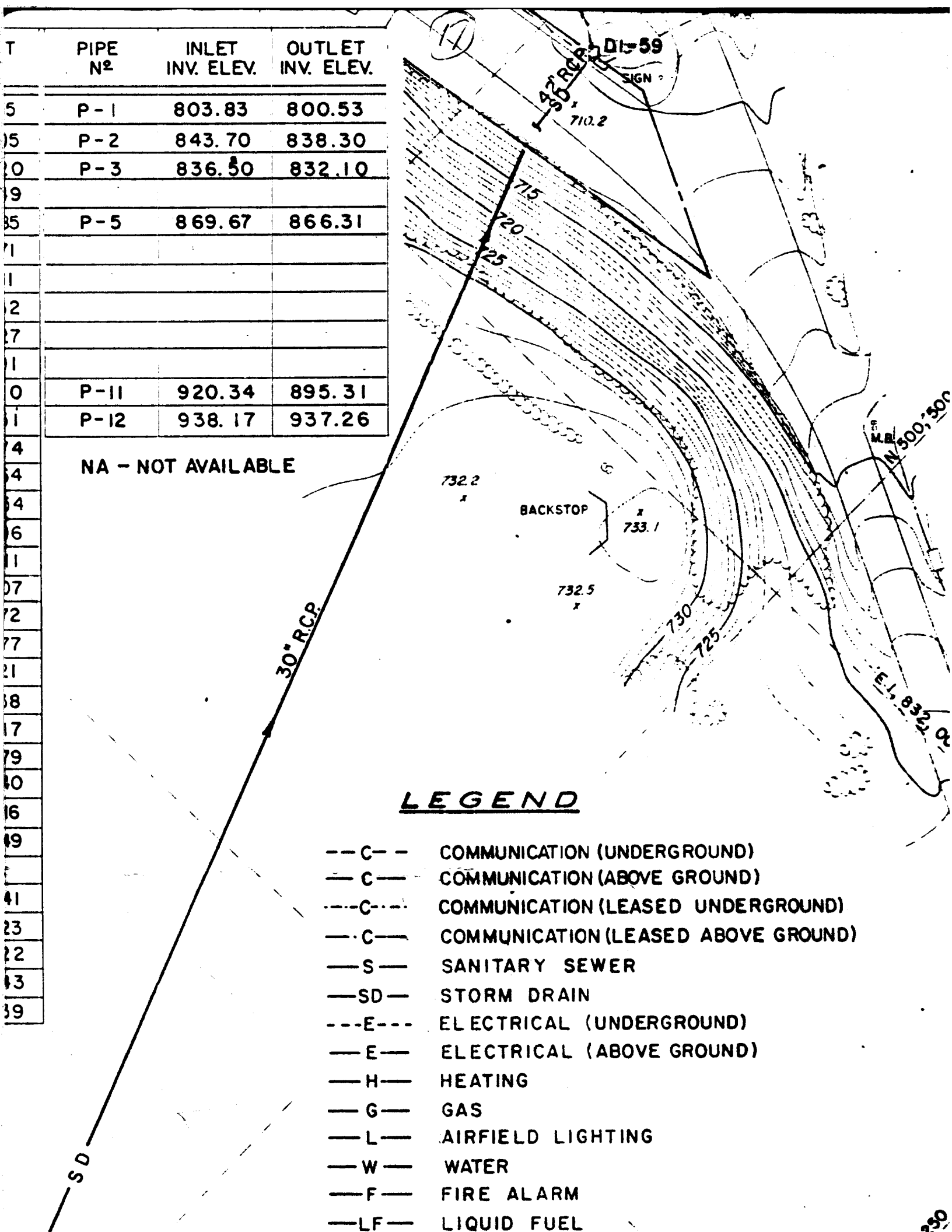
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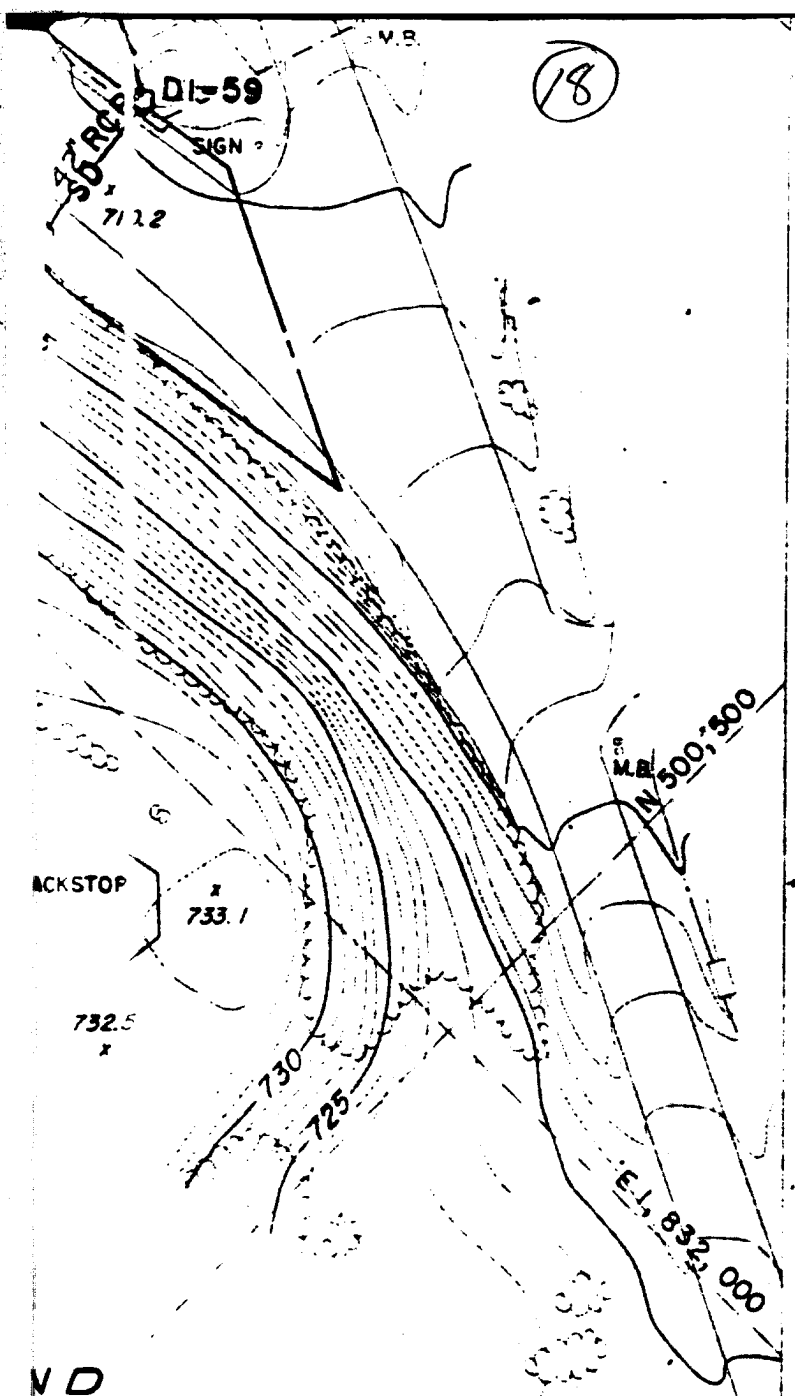
T	PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV.
5	P-1	803.83	800.53
15	P-2	843.70	838.30
0	P-3	836.50	832.10
9			
35	P-5	869.67	866.31
1			
1			
2			
7			
1			
0	P-11	920.34	895.31
1	P-12	938.17	937.26
4			
4			
4			
6			
1			
07			
72			
77			
21			
38			
17			
79			
30			
16			
49			
41			
23			
22			
43			
39			

NA - NOT AVAILABLE



LEGEND

--C--	COMMUNICATION (UNDERGROUND)
—C—	COMMUNICATION (ABOVE GROUND)
-·-C-·-	COMMUNICATION (LEASED UNDERGROUND)
—·C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGROUND)
—E—	ELECTRICAL (ABOVE GROUND)
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL

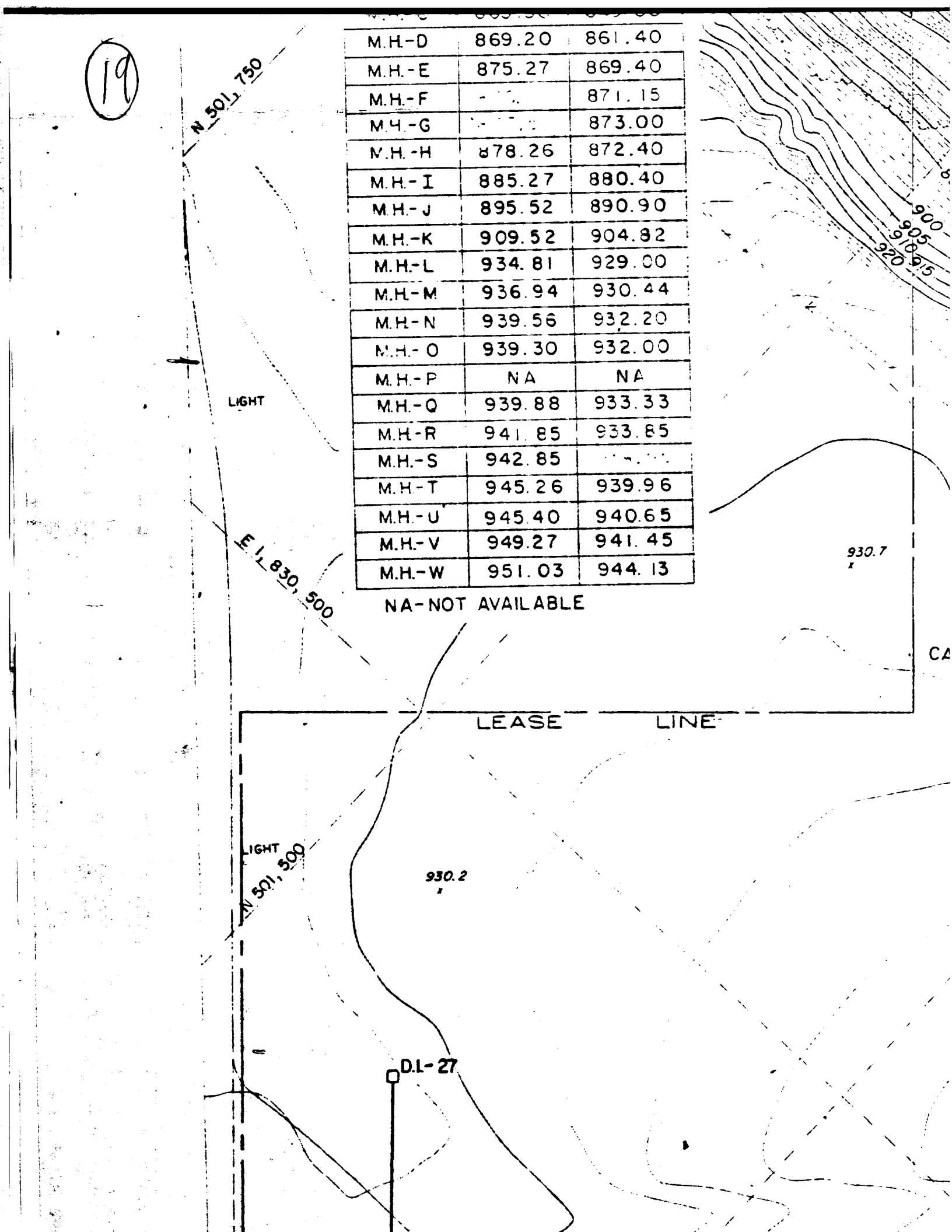


VD

CATION (UNDERGROUND)
CATION (ABOVE GROUND)
CATION (LEASED UNDERGROUND)
CATION (LEASED ABOVE GROUND)
Y SEWER
DRAIN
CAL (UNDERGROUND)
CAL (ABOVE GROUND)

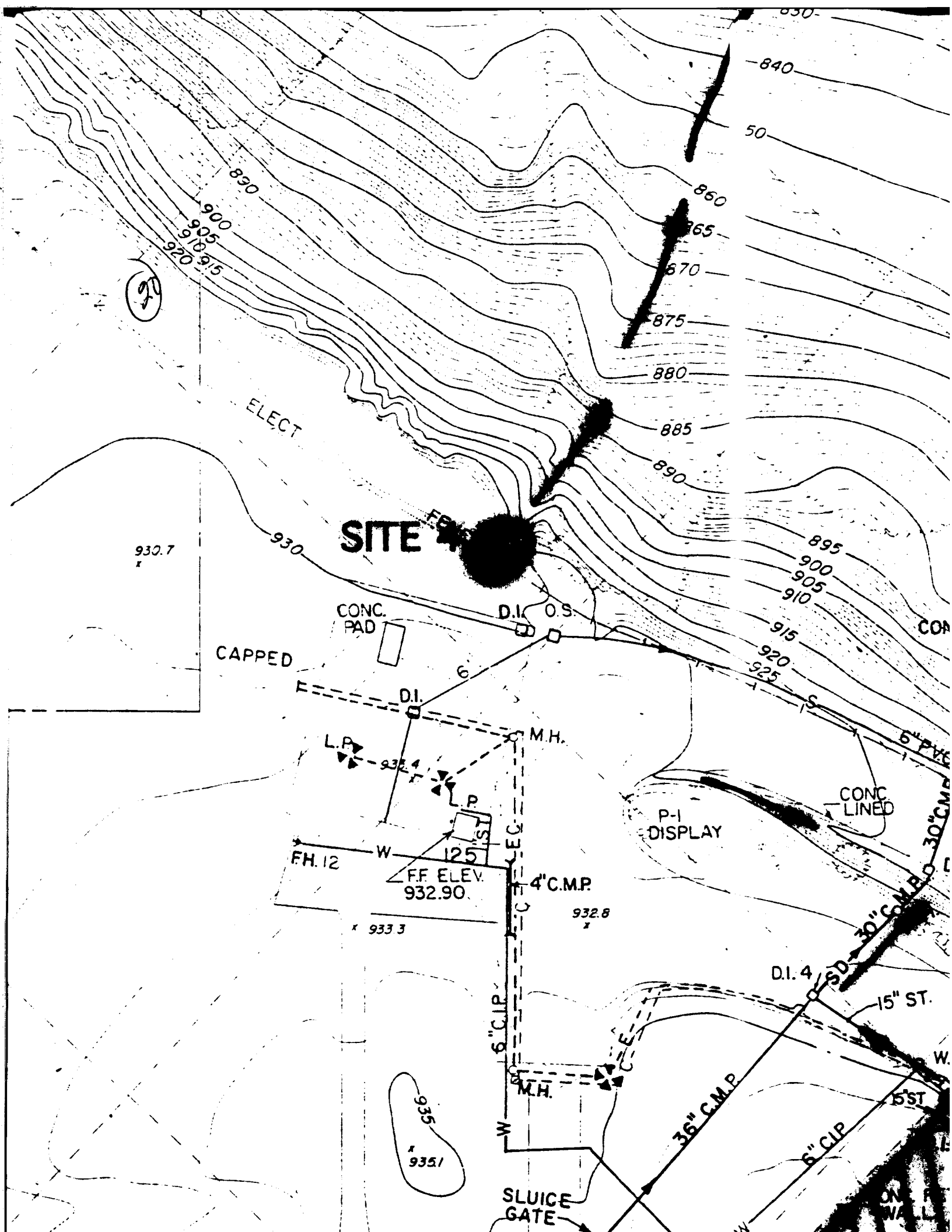
D LIGHTING

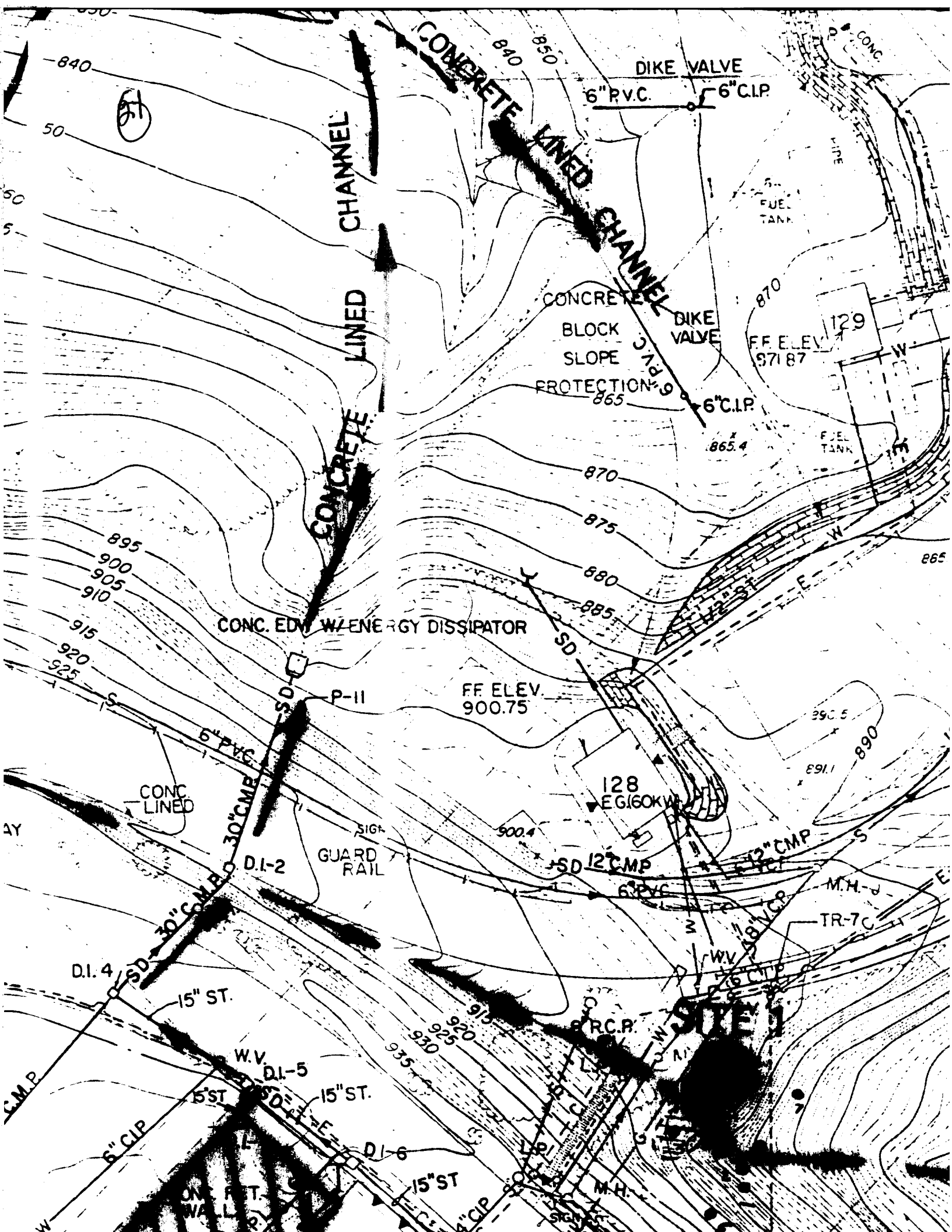
ARM

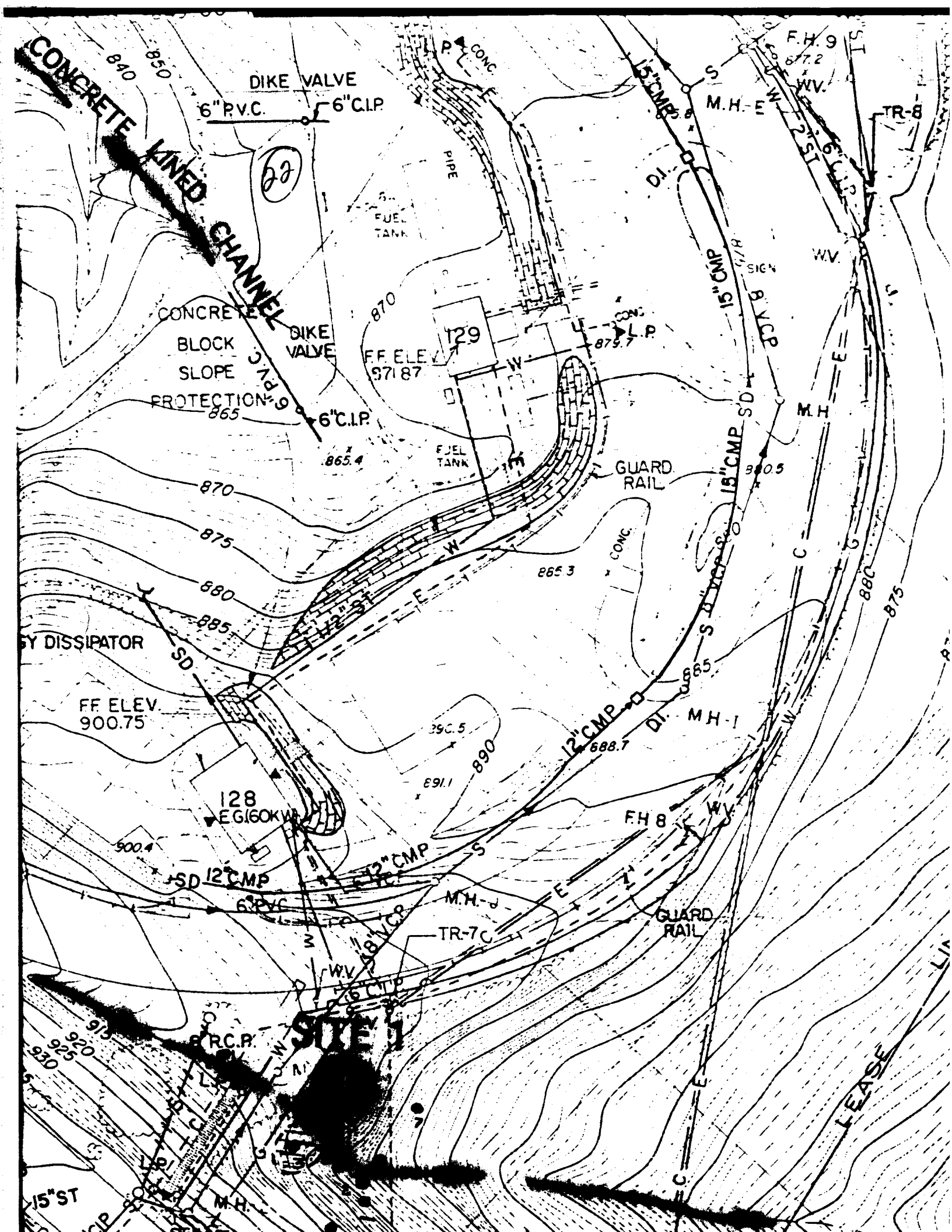


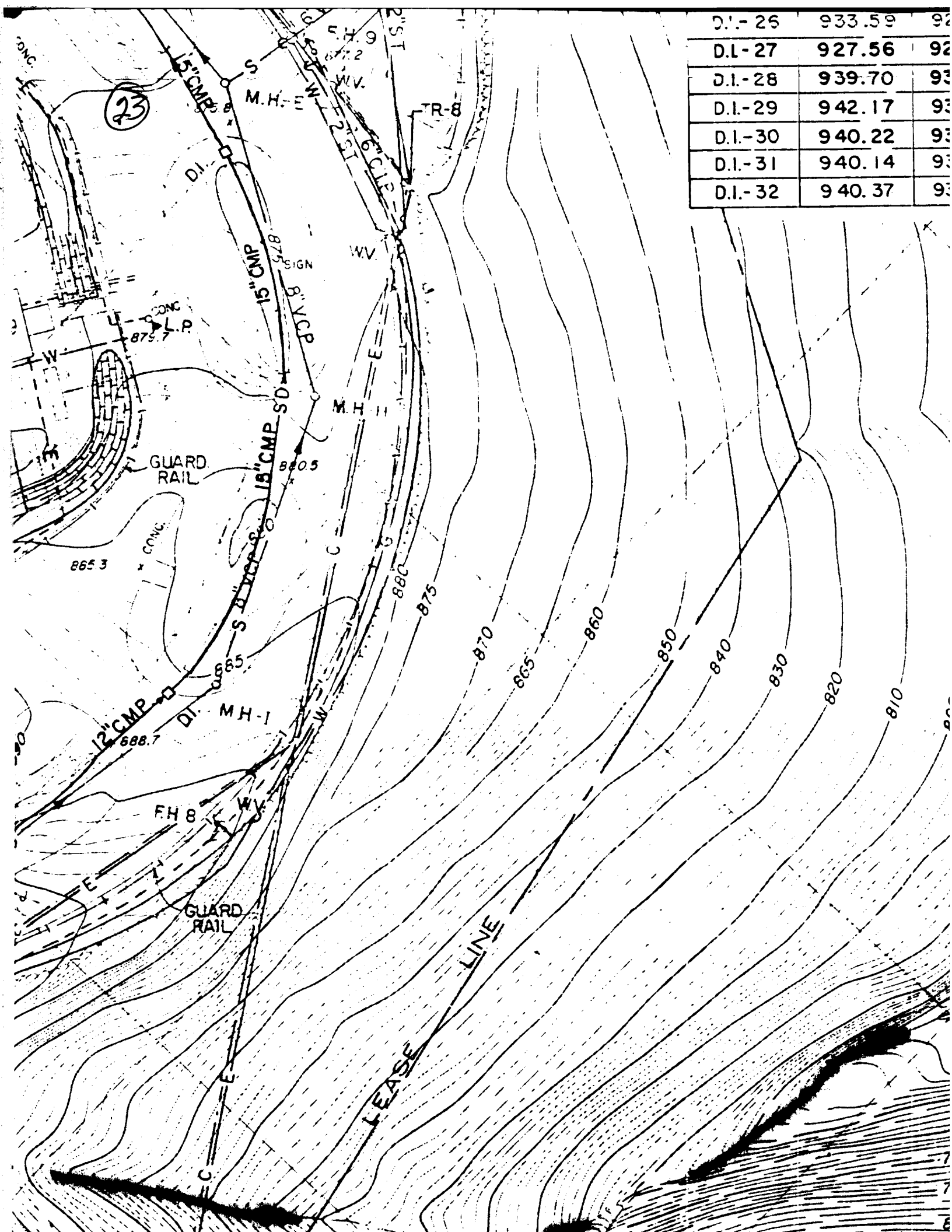
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	-	871.15
M.H.-G	-	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.82
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44
M.H.-N	939.56	932.20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.88	933.33
M.H.-R	941.85	933.85
M.H.-S	942.85	-
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

NA-NOT AVAILABLE


SITE
ELECT
CONC. PAD
CAPPED
D.I.
O.S.
M.H.
L.P.
F.H. 12
F.F. ELEV. 932.90
4" C.M.P.
6" C.I.P.
P-1 DISPLAY
CONC LINED
30" C.M.P.
D.I. 4
15" ST.
36" C.M.P.
SLUICE GATE
930.7
932.4
933.3
932.8
935.1
840
850
860
865
870
875
880
885
890
895
900
905
910
915
920
925
930

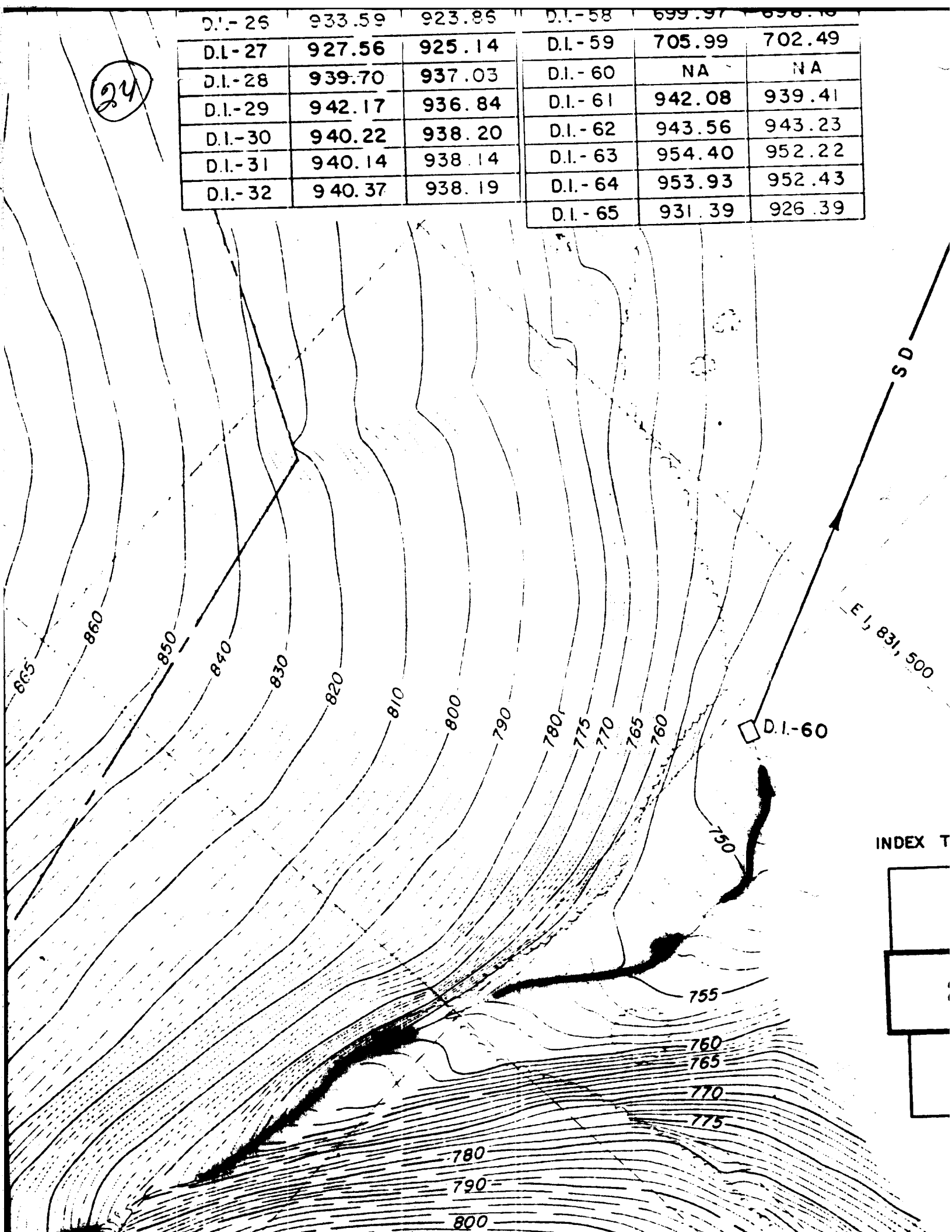

CONCRETE LINED CHANNEL
DIKE VALVE
6" P.V.C.
6" C.I.P.
CONCRETE LINED CHANNEL
CONCRETE BLOCK SLOPE PROTECTION
DIKE VALVE
6" P.V.C.
6" C.I.P.
FF ELEV 871.87
129
865.4
FUEL TANK
CONC. EDW W/ ENERGY DISSIPATOR
P-11
FF ELEV. 900.75
128
E.G. 160 KW
GUARD RAIL
D.I.-2
30" CMP
D.I. 4
15" ST.
W.V.
D.I.-5
15" ST.
6" C.I.P.
D.I.-6
15" ST
M.H.
TR-7
SITE 1
12" CMP
6" P.V.C.
18" R.C.P.
M.H.
M.H.


CONCRETE LINED CHANNEL
DIKE VALVE
6" P.V.C.
6" C.I.P.
22
P.
CONC.
PIPE
FUEL TANK
15" CMP
S
M.H.-E
F.H. 9
W.V.
TR-8
2" ST
6" C.I.P.
DI.
15" CMP
S.D.
R.C.P.
SIGN
CONCRETE BLOCK SLOPE PROTECTION
DIKE VALVE
6" C.I.P.
870
129
F.F. ELEV. 871.87
879.7
865.4
FUEL TANK
GUARD RAIL
880.5
865.3
875
880
885
ENERGY DISSIPATOR
SD
12" ST
F.F. ELEV. 900.75
890.5
891.1
890
865
12" CMP
DI. MH-1
688.7
128
E.G. 160 KW
900.4
F.H. 8
12" CMP
6" PVC
M.H.-J
TR-7C
48" RCP
915
920
925
930
SITE 1
LEASE
15" ST
M.H.

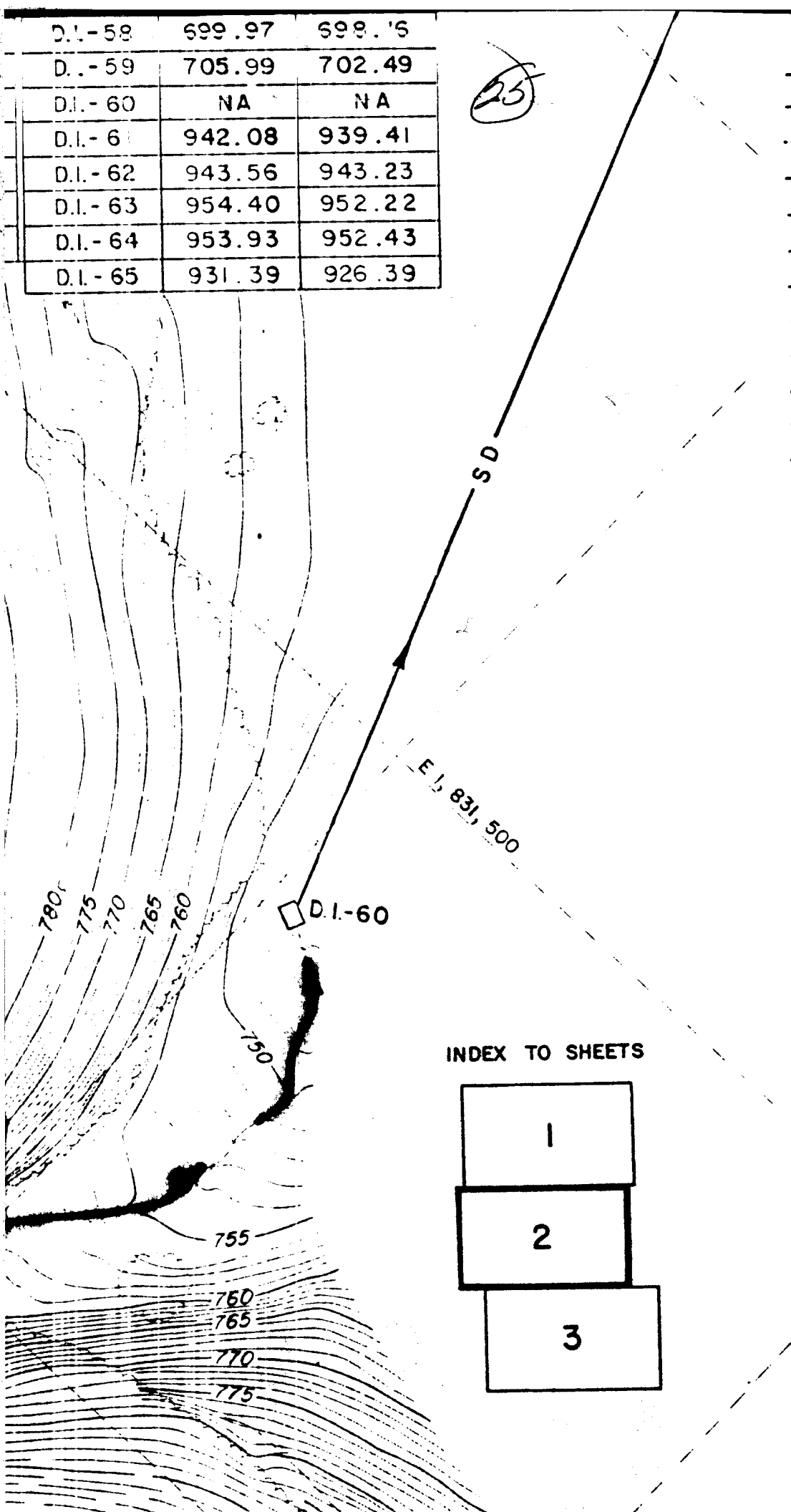

D.I.-26 933.59
D.I.-27 927.56
D.I.-28 939.70
D.I.-29 942.17
D.I.-30 940.22
D.I.-31 940.14
D.I.-32 940.37
15" CMP
M.H.-E
TR-8
D.I.
6" CLE
W.V.
SIGN
15" CMP
8" V.C.P
879.7
L.P.
M.H. 11
GUARD RAIL
18" CMP
880.5
865.3
CONC
8" V.C.P
885
12" CMP
D.I. MH-1
688.7
F.H. 8
GUARD RAIL
LEASE LINE
880
875
870
865
860
850
840
830
820
810

D.I.-26	933.59	923.86
D.I.-27	927.56	925.14
D.I.-28	939.70	937.03
D.I.-29	942.17	936.84
D.I.-30	940.22	938.20
D.I.-31	940.14	938.14
D.I.-32	940.37	938.19

D.I.-58	699.97	698.18
D.I.-59	705.99	702.49
D.I.-60	NA	NA
D.I.-61	942.08	939.41
D.I.-62	943.56	943.23
D.I.-63	954.40	952.22
D.I.-64	953.93	952.43
D.I.-65	931.39	926.39

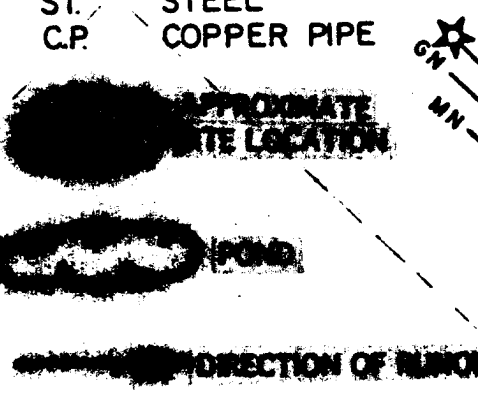


D.I.-58	699.97	698.15
D.I.-59	705.99	702.49
D.I.-60	NA	NA
D.I.-61	942.08	939.41
D.I.-62	943.56	943.23
D.I.-63	954.40	952.22
D.I.-64	953.93	952.43
D.I.-65	931.39	926.39



INDEX TO SHEETS

--C--	COMMUNICATION (UND
—C—	COMMUNICATION (ABO
-·-C-·-	COMMUNICATION (LEA
—·C—	COMMUNICATION (LE
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UND
—E—	ELECTRICAL (ABO
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTIN
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
⌀	POLE
D.I.□	DROP INLET
M.H.○	MANHOLE
W.V.○	WATER VALVE
L.P.○	LIGHT POLE
O.S□	OIL SEPARATOR
F.H.⌀	FIRE HYDRANT
C.O.○	CLEAN OUT
G.V.○	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENE
▲	SECURITY LIGHTIN
⊠	PEDESTAL
—·—·—	ABANDONED UTILIT
—I—I—	GUARD RAIL
P.V.C.	PLASTIC PIPE
C.M.P.	CORRUGATED META
R.C.P.	REINFORCED CONC
V.C.P.	VITRIFIED CLAY PI
P.L.	PLASTIC LINE
C.I.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE



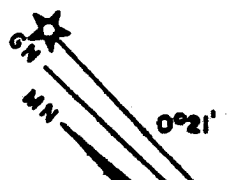
LEGEND

26

--C--	COMMUNICATION (UNDERGROUND)
— C —	COMMUNICATION (ABOVE GROUND)
-·-C-·-	COMMUNICATION (LEASED UNDERGROUND)
—·C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGROUND)
— E —	ELECTRICAL (ABOVE GROUND)
— H —	HEATING
— G —	GAS
— L —	AIRFIELD LIGHTING
— W —	WATER
— F —	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
⌀	POLE
D.I. □	DROP INLET
M.H. ○	MANHOLE
W.V. ○	WATER VALVE
L.P. ○	LIGHT POLE
O.S □	OIL SEPARATOR
F.H. ⌀	FIRE HYDRANT
C.O. ○	CLEAN OUT
G.V. ○	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⊠	PEDESTAL
-·-·-·-	ABANDONED UTILITY
—I—I—	GUARD RAIL
P.V.C.	PLASTIC PIPE
C.M.P.	CORRUGATED METAL PIPE
R.C.P.	REINFORCED CONCRETE PIPE
V.C.P.	VITRIFIED CLAY PIPE
P.L.	PLASTIC LINE
C.I.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE

N 500,250

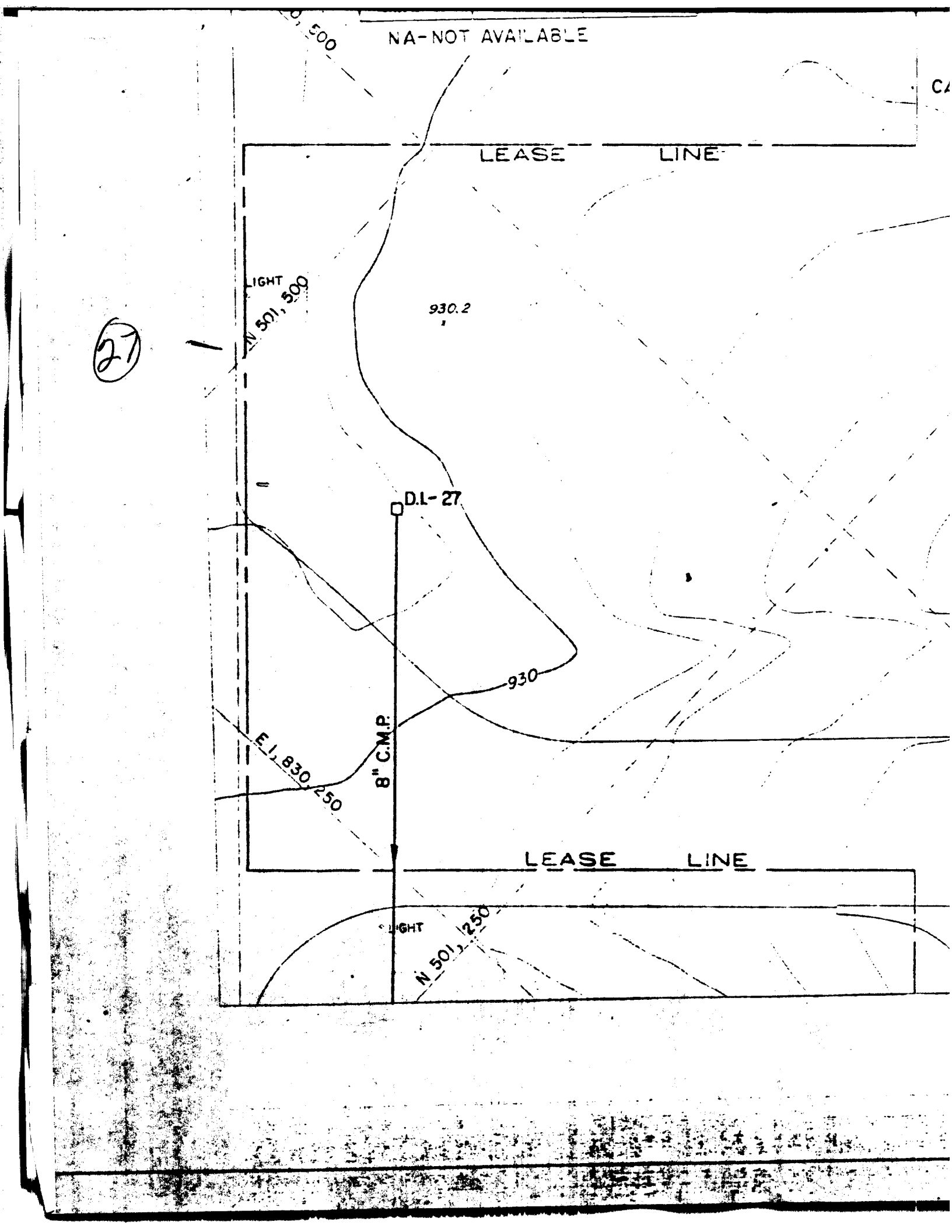
E 1,831,750

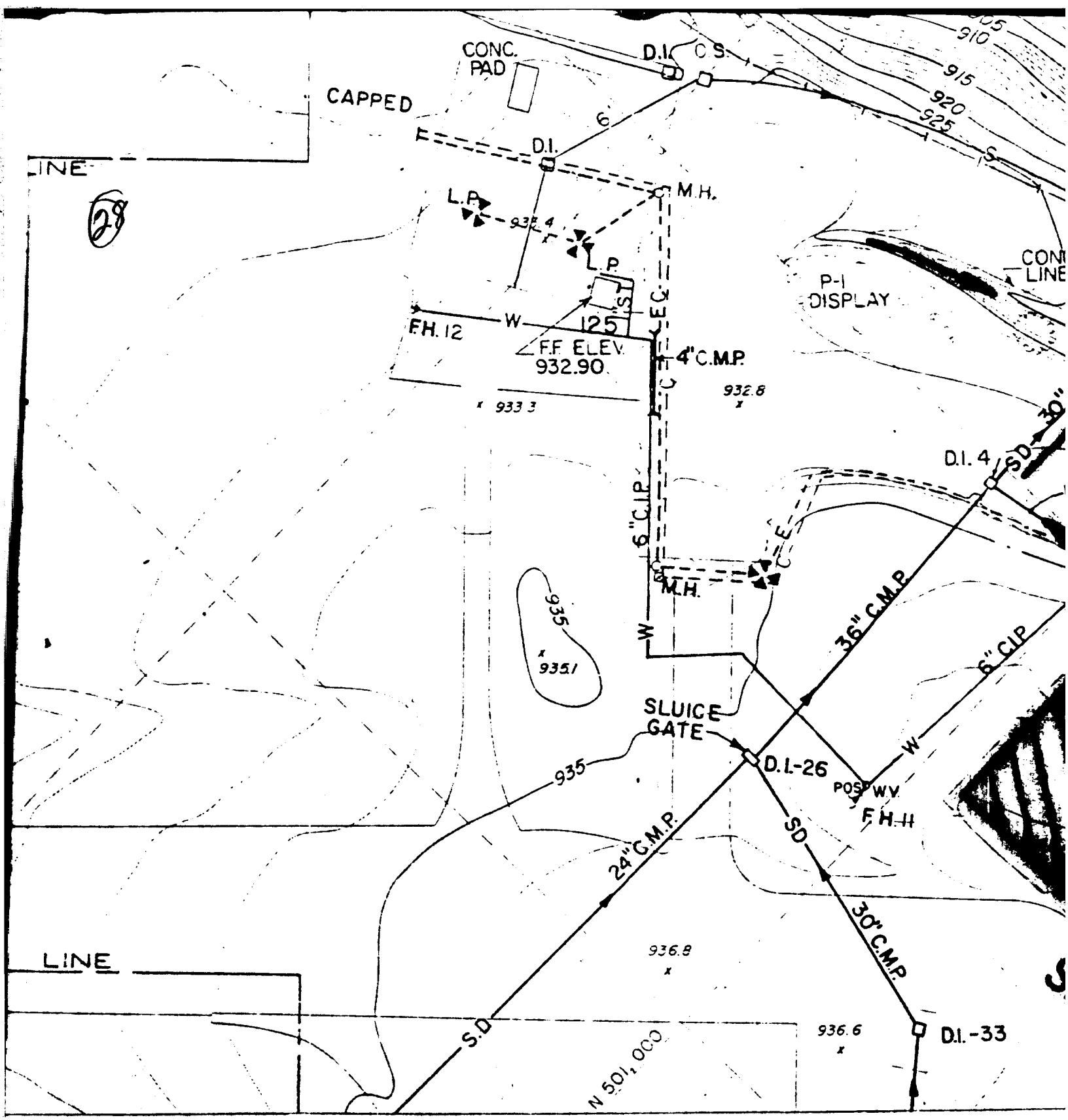


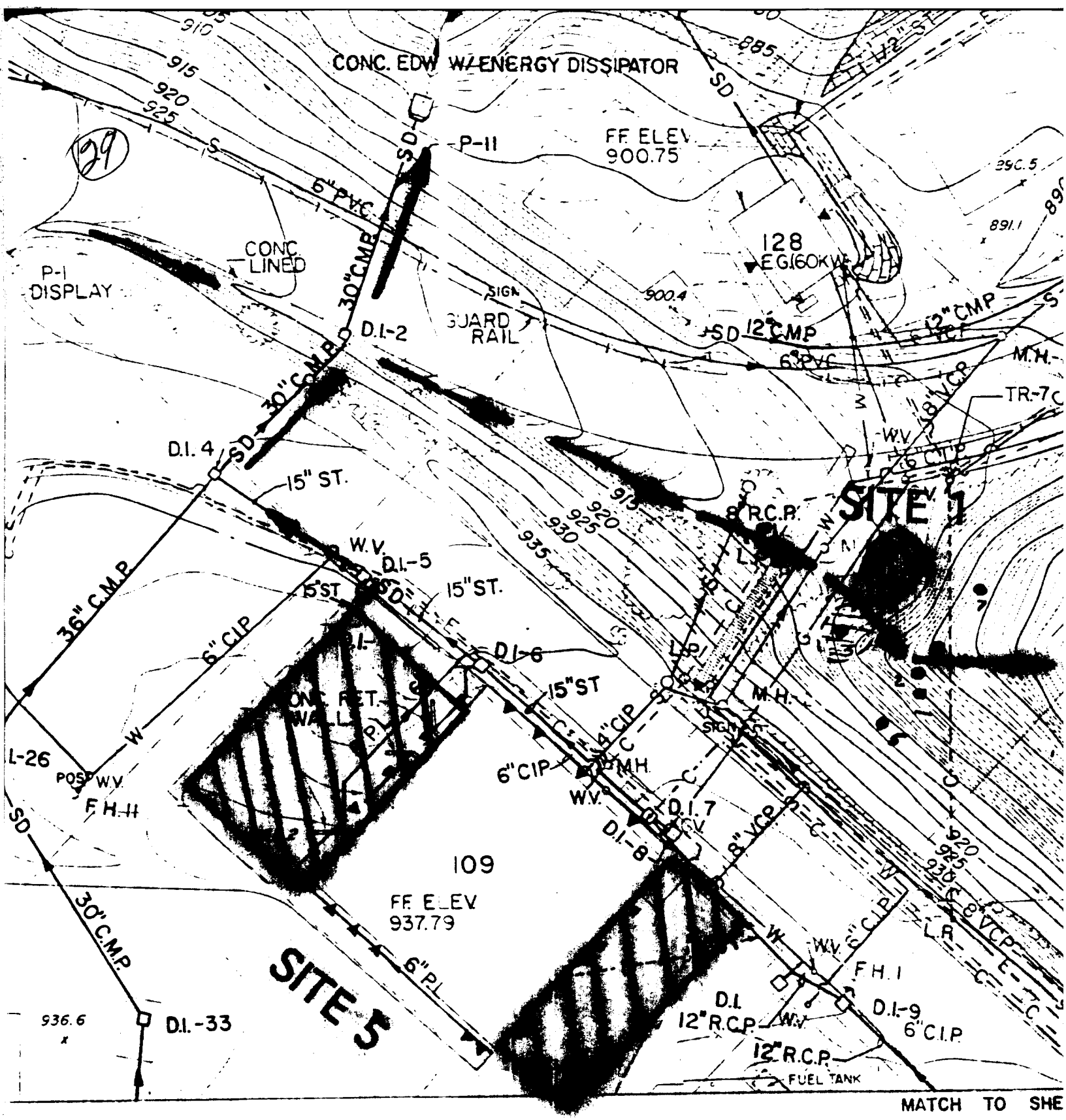
APPROXIMATE SITE LOCATION

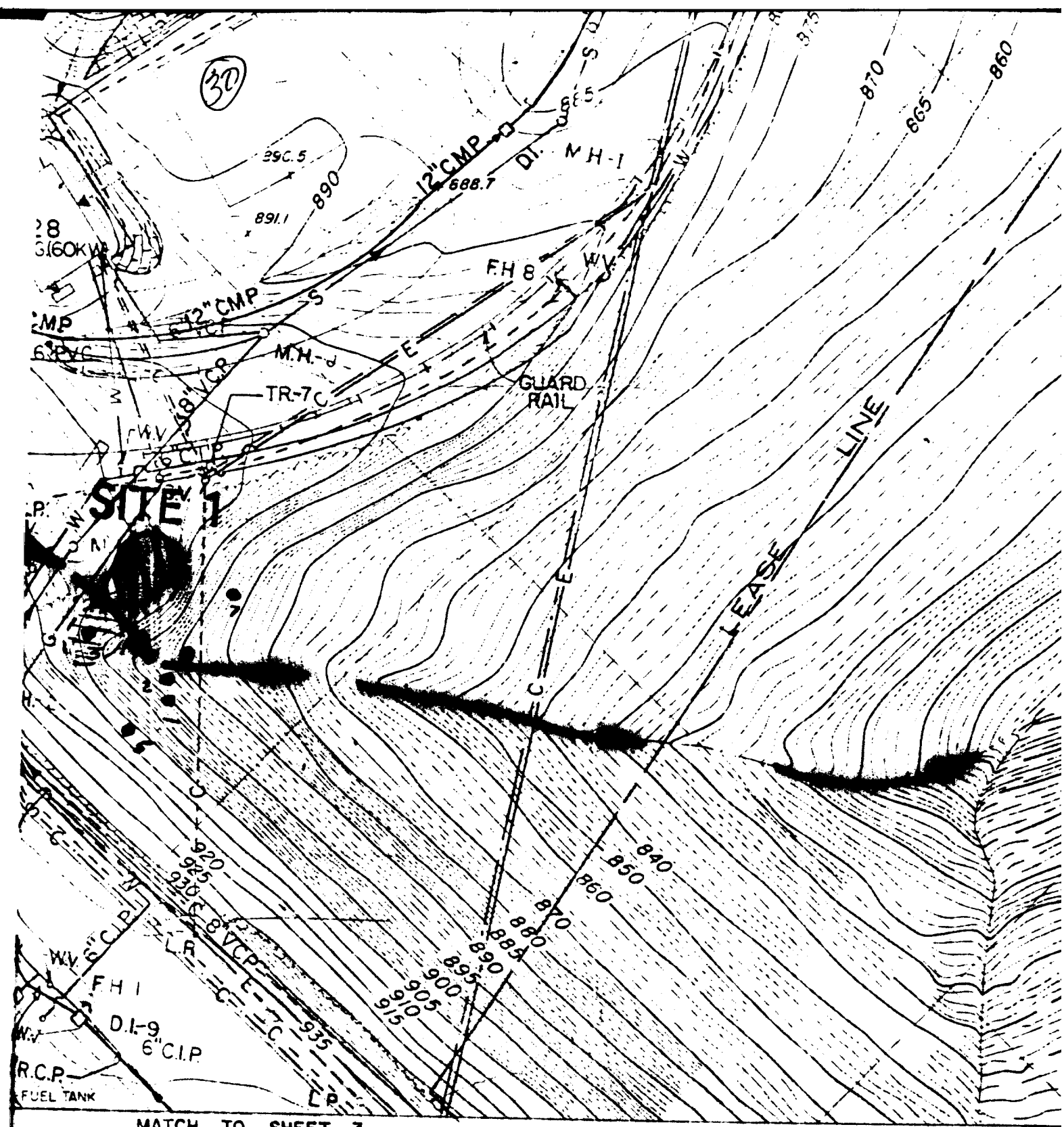
POND

DIRECTION OF RUNOFF

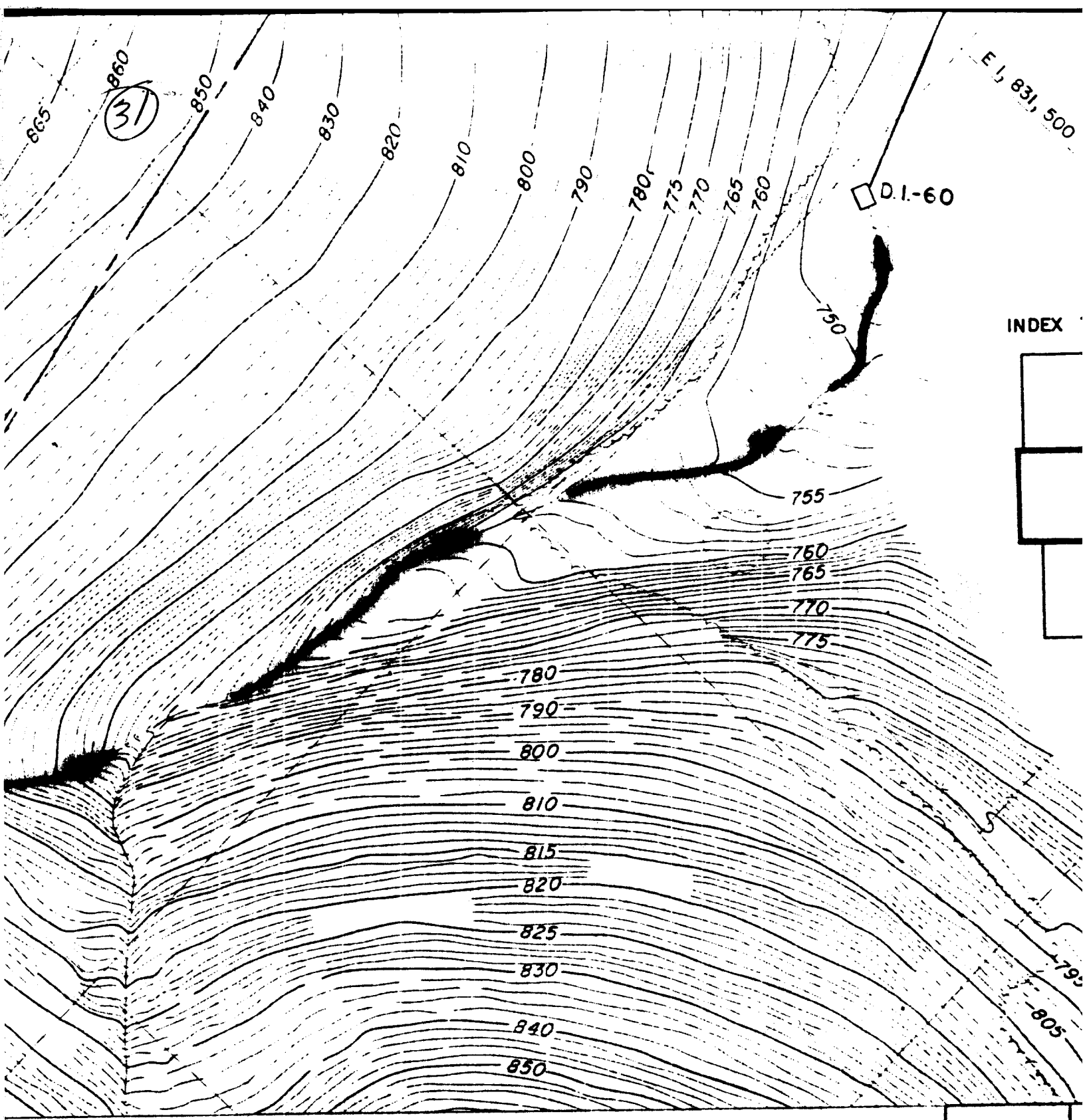

NA-NOT AVAILABLE
LEASE LINE
LIGHT
N 501,500
930.2
D.I-27
930
8" C.M.P.
E 1,830,250
LEASE LINE
LIGHT
N 501,250


CONC. PAD
D.I.
CAPPED
LINE
28
D.I.
M.H.
L.P.
932.4
L.P.
P-1 DISPLAY
F.H. 12
W
125
F.F. ELEV. 932.90
4" C.M.P.
933.3
932.8
6" C.I.P.
M.H.
935
935.1
D.I. 4
SD
30"
36" C.M.P.
6" C.I.P.
SLUICE GATE
D.I.-26
POST W.V.
F.H. 11
935
24" C.M.P.
SD
30" C.M.P.
LINE
936.8
936.6
D.I.-33
S.D
N 501,000
910
915
920
925


CONC. EDW W/ ENERGY DISSIPATOR
FF ELEV 900.75
P-11
128
E.G.160K
SIGN
GUARD RAIL
SD 12"CMP
12"CMP
M.H.
TR-7
W.V.
8"VCP
6"CIP
SITE 1
8"R.C.P.
CONC LINED
P-1 DISPLAY
6"PVC
30"CMP
D.I-2
D.I. 4
15" ST.
W.V.
D.I-5
15"ST.
36" C.M.P.
6" CIP
D.I-6
15"ST
4"CIP
6"CIP
M.H.
W.V.
D.I. 7
D.I-8
8"VCP
L-26
POST
W.V.
F.H.-11
109
FF ELEV 937.79
SITE 5
30" C.M.P.
6"P.L.
936.6
D.I.-33
D.I.
12"R.C.P.
W.V.
D.I-9
6"C.I.P
12"R.C.P.
FUEL TANK
F.H.1
MATCH TO SHE



GRID BASED ON WEST VIRGINIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) 1927 N.A. DATUM. VERTICAL CONTROL BASED ON 1929 MEAN SEA LEVEL DATUM.



E PLANE
927 N.A. DATUM.
MEAN SEA LEVEL

M.H.	MANHOLE
W.V.	WATER VALVE
L.P.	LIGHT POLE
O.S.	OIL SEPARATOR
F.H.	FIRE HYDRANT
C.O.	CLEAN OUT
G.V.	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⊠	PEDESTAL
——+——+——	ABANDONED UTILITY
——I——I——	GUARD RAIL
P.V.C.	PLASTIC PIPE
C.M.P.	CORRUGATED METAL PIPE
R.C.P.	REINFORCED CONCRETE PIPE
V.C.P.	VITRIFIED CLAY PIPE
P.L.	PLASTIC LINE
C.I.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE

E 1,831,500

32

D.I.-60

750

INDEX TO SHEETS

1

2

3

APPROXIMATE SITE LOCATION

POND

DIRECTION OF RUNOFF

GN

MN

0°21'

3½

785

795

805

NATIONAL GUARD B
WASHINGTON D.C

AIR NATIONAL GU
YEAGER AIRPOR
CHARLESTON, WEST

CONTOUR

DATE	NO.	DESCRIPTION	BY

REVISIONS

L. ROBERT KIMBALL & ASSOCIATES
Consulting Engineers & Architects
EBENSBURG, PA. HUNTINGTON, W.VA.

MANHOLE
WATER VALVE
LIGHT POLE
OIL SEPARATOR
FIRE HYDRANT
CLEAN OUT
GAS VALVE
TRANSFORMER
EMERGENCY GENERATOR
SECURITY LIGHTING
PEDESTAL
ABANDONED UTILITY
GUARD RAIL
PLASTIC PIPE
CORRUGATED METAL PIPE
REINFORCED CONCRETE PIPE
VITRIFIED CLAY PIPE
PLASTIC LINE
CAST IRON PIPE
STEEL
COPPER PIPE

APPROXIMATE SITE LOCATION

POND

DIRECTION OF RUNOFF

133

E 1,831,750

GN

MN

0°21'

3½

NATIONAL GUARD BUREAU
WASHINGTON D.C.

AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

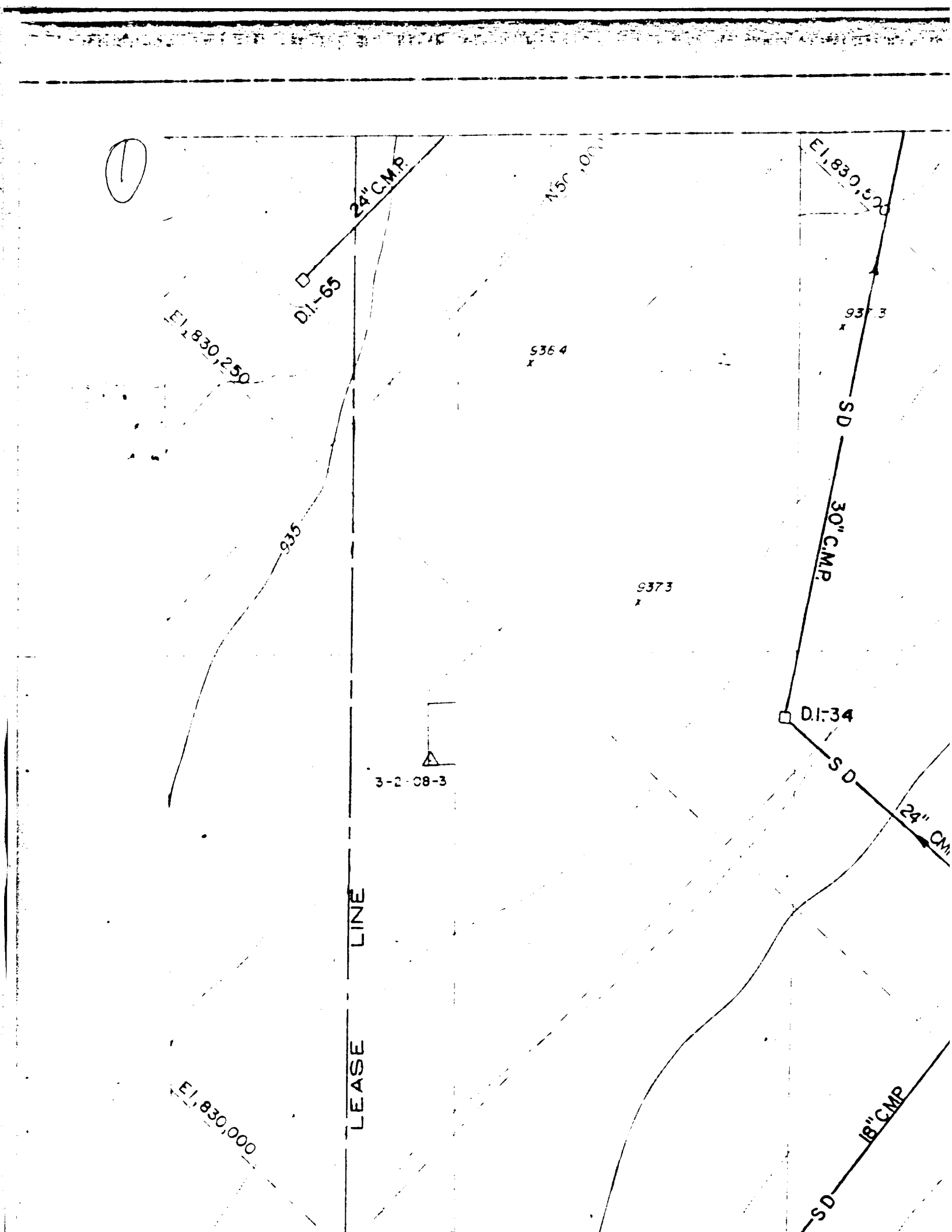
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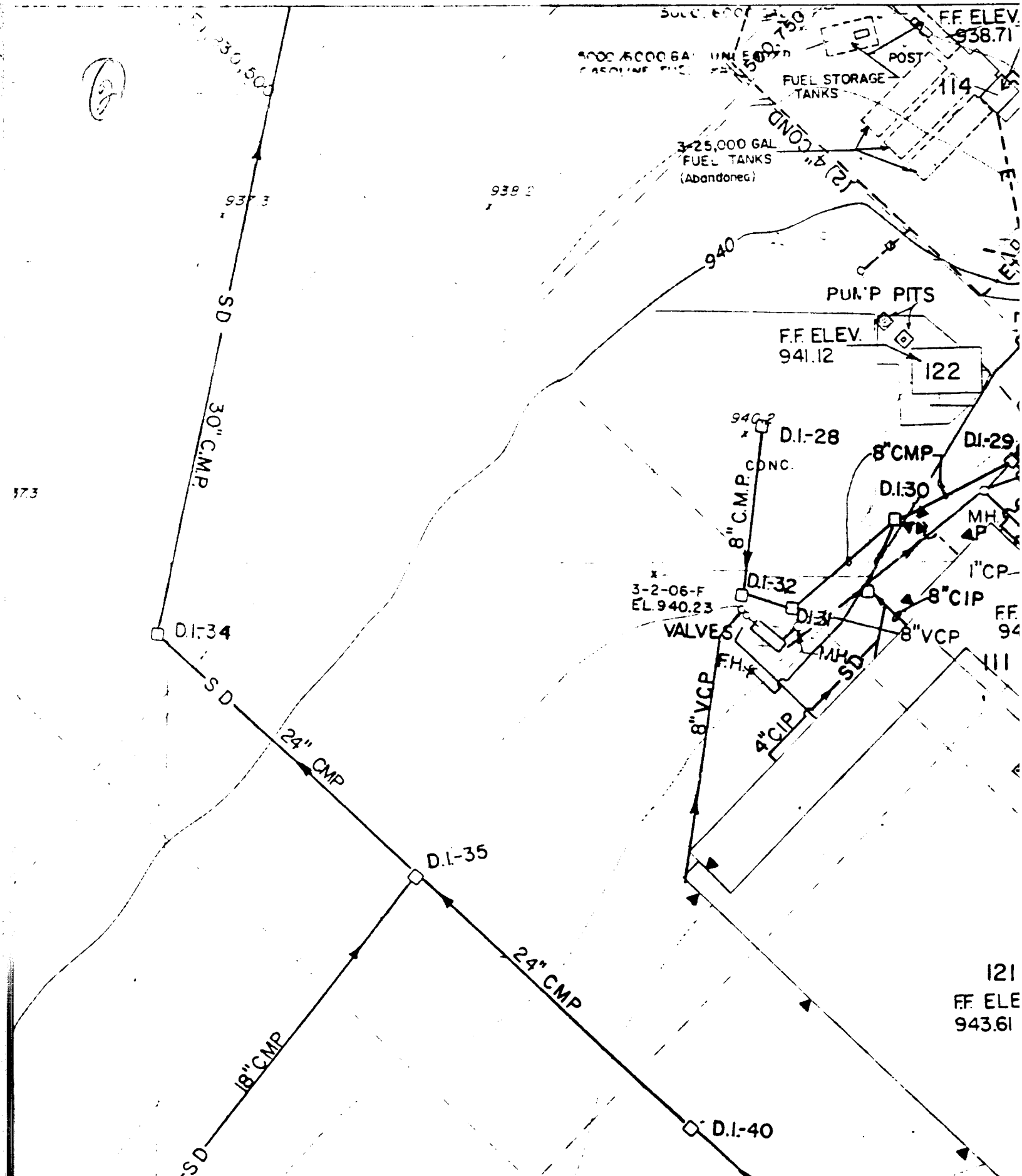
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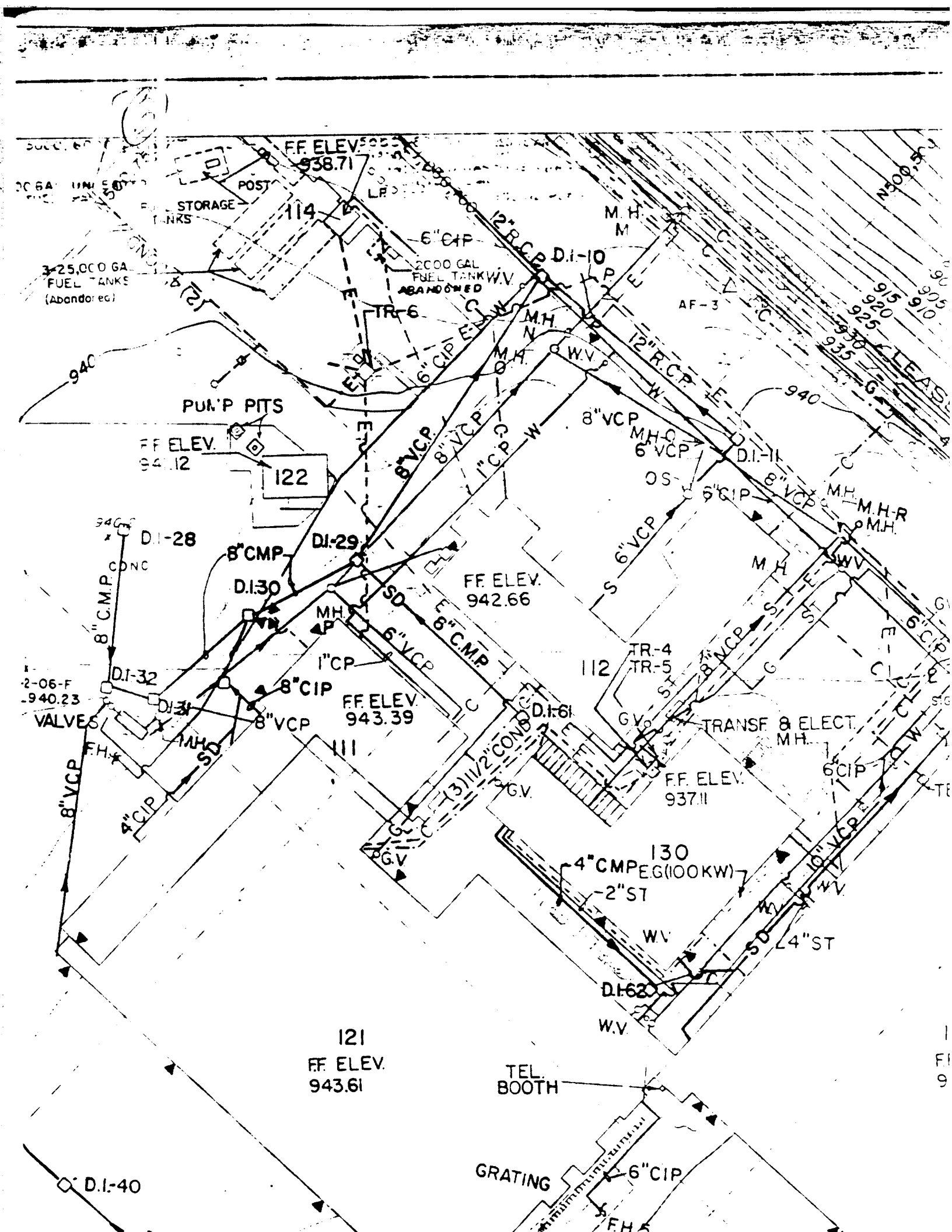
BY

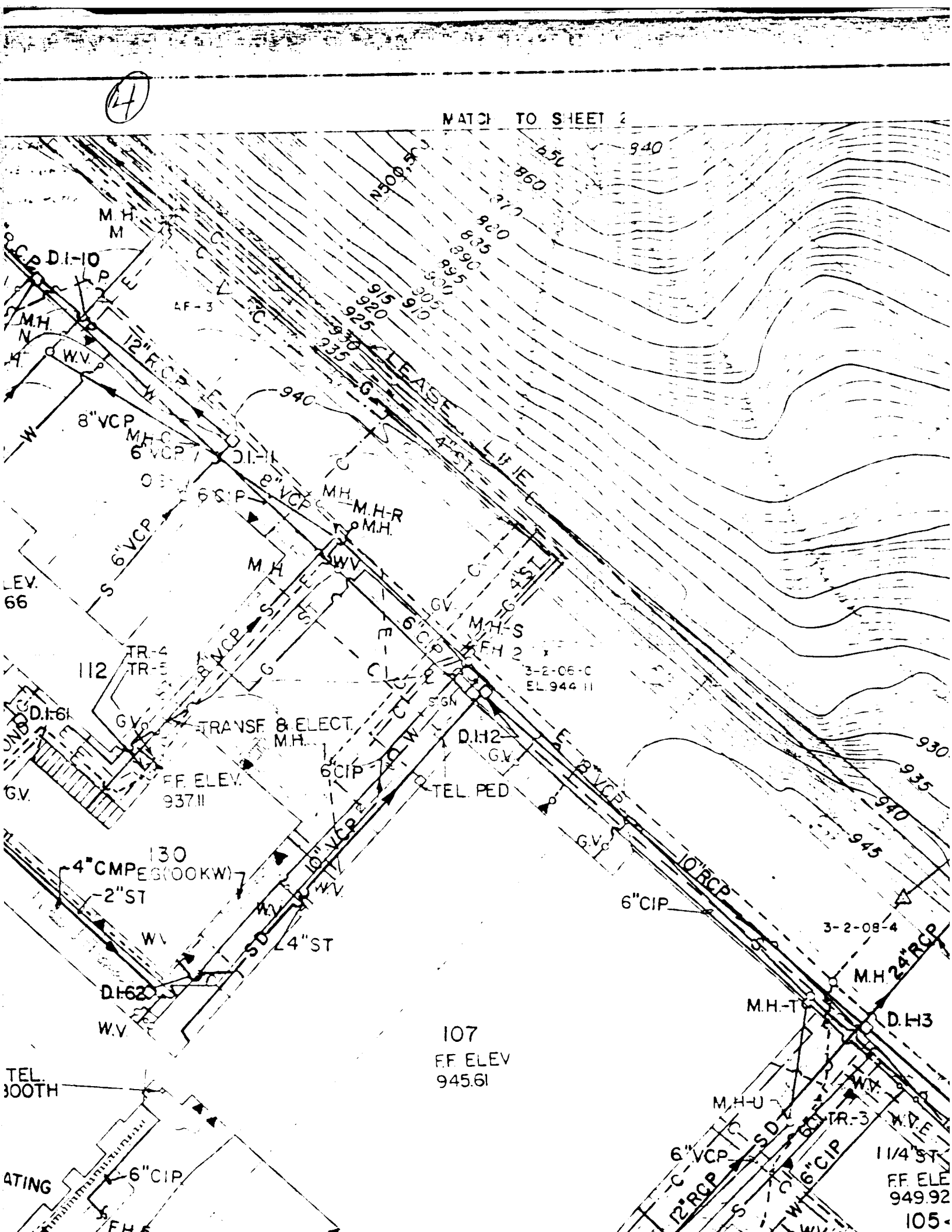
L. ROBERT KIMBALL & ASSOCIATES
Consulting Engineers & Architects
EBENSBURG, PA. HUNTINGTON, W.VA.

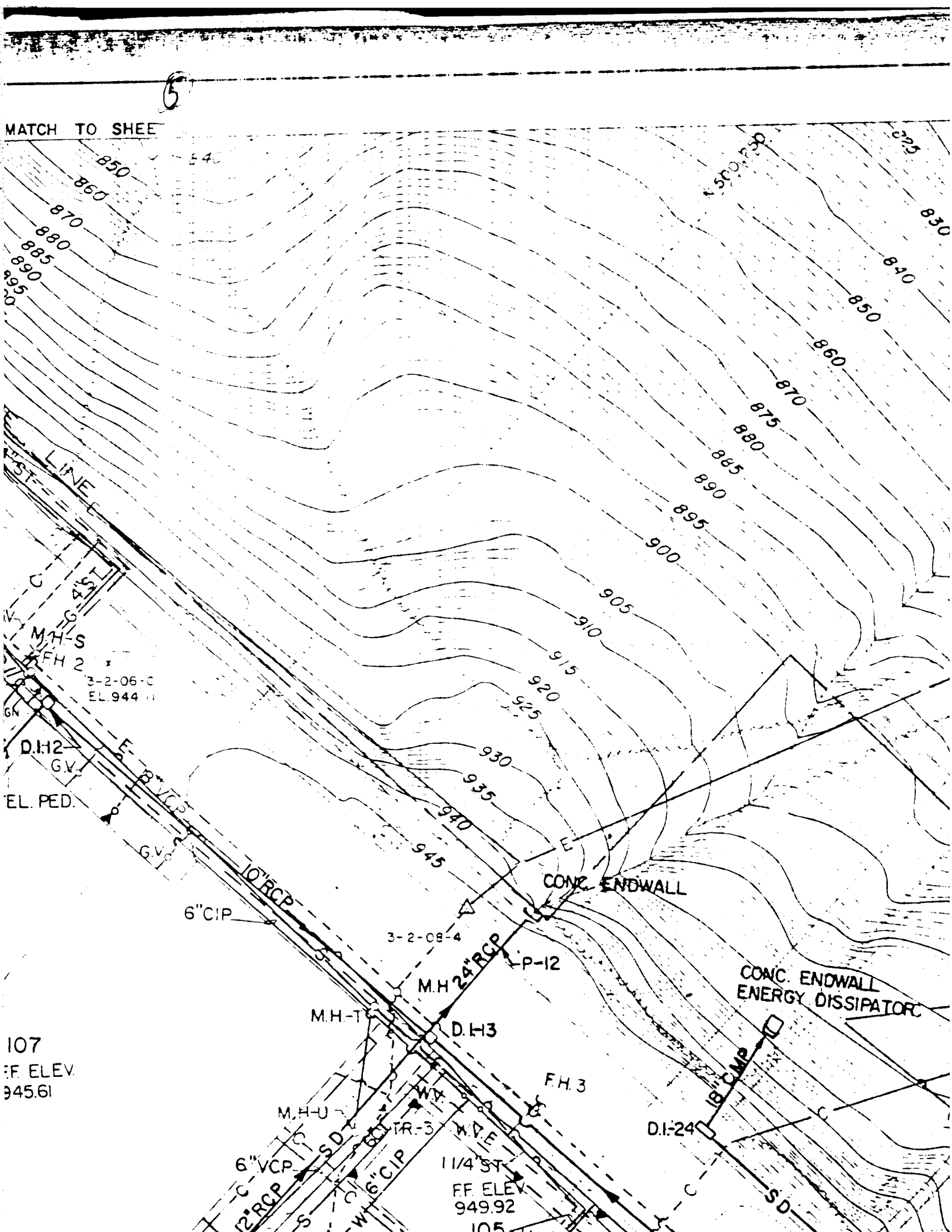
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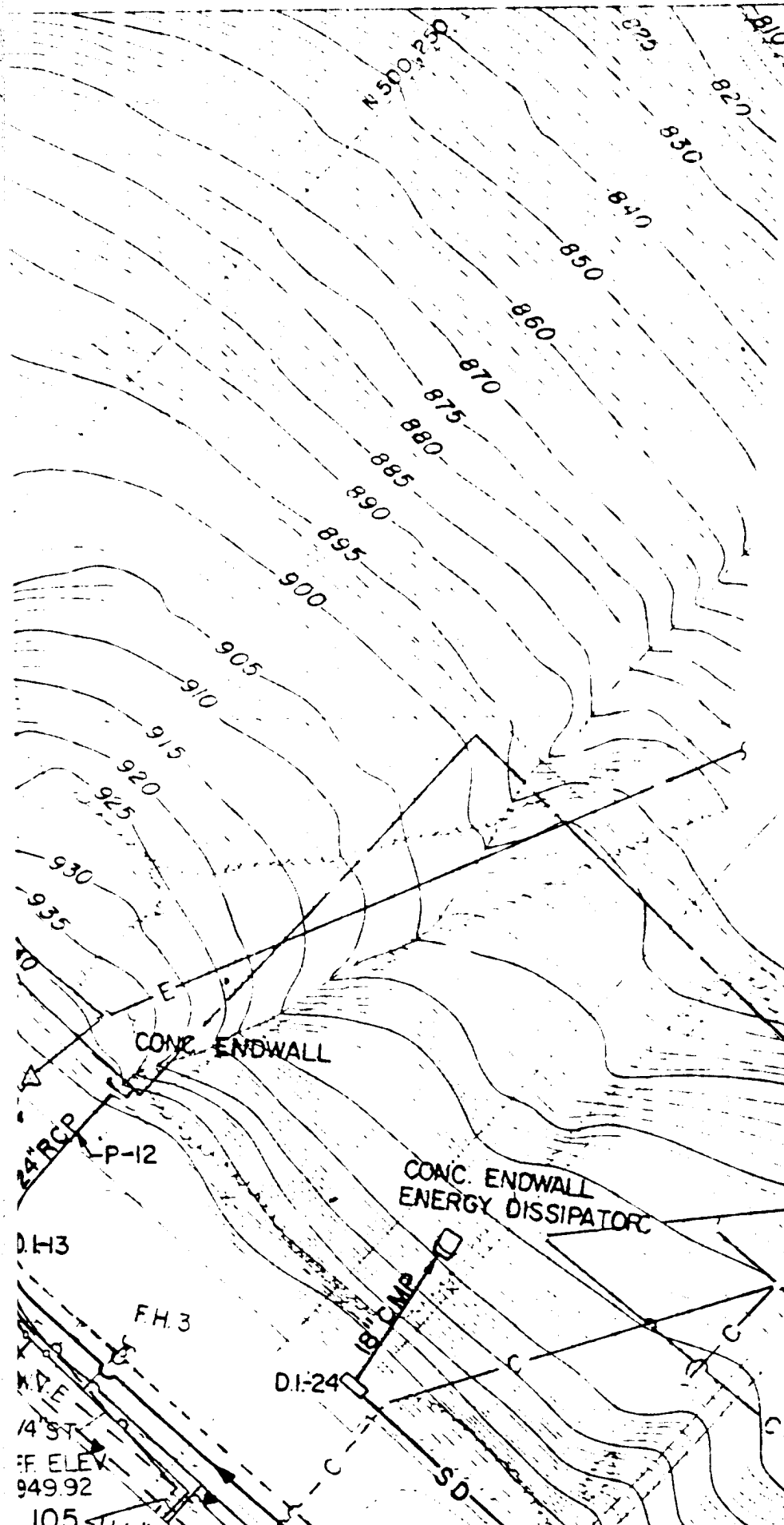

24" C.M.P.
D.I.-65
EL. 1830,250
935
9364
9373
9373
SD
30" C.M.P.
EL. 1830,500
D.I.-34
SD
24" CM
3-2-08-3
LEASE LINE
EL. 1830,000
18" CMP
SD


F.F. ELEV.
938.71
POST
FUEL STORAGE TANKS
114
3-25,000 GAL FUEL TANKS (Abandoned)
940
PUMP PITS
F.F. ELEV.
941.12
122
D.I-28
8"CMP
D.I-29
CONC.
8" C.M.P.
D.I-30
MH
1"CP
D.I-32
3-2-06-F
EL. 940.23
VALVES
D.I-31
8"CIP
8"VCP
F.H.
MH
SD
8"VCP
4"CIP
111
30" C.M.P.
SD
D.I-34
SD
24" CMP
D.I-35
24" CMP
18" C.M.P.
D.I-40
121
F.F. ELE
943.61


F.F. ELEV. 938.71
POST
STORAGE TANKS
114
6"CIP
2000 GAL FUEL TANK W.V. ABANDONED
3-25,000 GA. FUEL TANKS (Abandoned)
D.I-10
12"R.C.P.
M.H.
TR-6
6"CIP
8"VCP
8"VCP
1"CP
PUMP PITS
F.F. ELEV. 94.12
122
8"VCP
MH-O
6"VCP
D.I-11
OS
6"CIP
8"VCP
M.H.
M.H-R
M.H.
D.I-28
8"CMP
D.I-29
8"CMP CONC
D.I-30
F.F. ELEV. 942.66
6"VCP
6"C.M.P.
MH
1"CP
6"VCP
112
TR-4
TR-5
8"VCP
6"CIP
D.I-32
8"CIP
F.F. ELEV. 943.39
D.I-31
8"VCP
D.I-61
TRANSF. & ELECT. M.H.
VALVES
F.H.
111
(3)1 1/2" COND.
F.F. ELEV. 937.11
6"CIP
8"VCP
4"CIP
G.V.
130
4"CMP E.G.(100 KW)
2"ST
W.V.
4"ST
D.I-62
121
F.F. ELEV. 943.61
TEL. BOOTH
D.I-40
GRATING
6"CIP
F.H.
AF-3
LEASE
940
915
920
925
930
935
910
905


MATCH TO SHEET 2
M.H. M
D.I-10
M.H. N
W.V.
12"RCP
8"VCP
6"VCP
D.I-11
M.H-C
M.H-R
M.H.
LEASE LINE
4"ST
M.H-S
FH 2
3-2-06-C
EL. 944.11
TR-4
TR-5
112
D.I-61
G.V.
TRANSF. & ELECT. M.H.
FF. ELEV. 937.11
6"CIP
D.I-12
TEL. PED
SGN
10"RCP
130
4"CMP
ES(100KW)
2"ST
4"ST
D.I-62
W.V.
107
FF ELEV
945.61
3-2-08-4
24"RCP
M.H-T
D.I-13
M.H-U
TR-3
6"VCP
12"RCP
11/4"ST
FF. ELE
949.92
105
TEL.
BOOTH
ATING
6"CIP
FH
940
935
930
925
920
915
910
905
900
895
890
885
880
875
870
865
860
855
850
945


MATCH TO SHEE
850
860
870
880
885
890
895
900
905
910
915
920
925
930
935
940
945
830
840
850
860
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
LINE
4"ST
M.H-S
FH 2
3-2-06-C
EL.944
D.I.H2
G.V.
EL. PED.
8"VCP
G.V.
10"RCP
6"CIP
CONC. ENDWALL
3-2-08-4
M.H 24"RCP
P-12
M.H-T
D.I.H3
CONC. ENDWALL
ENERGY DISSIPATOR
107
F. ELEV.
945.61
F.H. 3
M.H-U
TR-3
W.V.
18" CMP
D.I.-24
6"VCP
SD
6"CIP
11/4"ST
F.F. ELEV.
949.92
105
SD



ELECTRICAL TRANSF

TRANSFORMER Nº	VOLTS	PHASE
TR. - 1	208	3
TR. - 2	208	3
TR. - 3	208	3
TR. - 4	208	3
TR. - 5	208	3
TR. - 6	208	3
TR. - 7	208	3
TR. - 8	240	1
TR. - 9	240	3
TR. - 10	240	1
TR. - 11	208	3
TR. - 12	NA	NA

NA-NOT AVAILABLE

(7)

E 1,831,250

N 500,000

820

830

ELECTRICAL TRANSFORMERS

TRANSFORMER Nº	VOLTS	PHASE	K.V.A.
TR. - 1	208	3	225t
TR. - 2	208	3	225t
TR. - 3	208	3	750t
TR. - 4	208	3	750t
TR. - 5	208	3	300t
TR. - 6	208	3	300t
TR. - 7	208	3	10ea.
TR. - 8	240	1	10
TR. - 9	240	3	25ea.
TR. - 10	240	1	25
TR. - 11	208	3	5ea.
TR. - 12	NA	NA	NA

NA-NOT AVAILABLE

LEGEND

--C--	COMMUNICATION (UI
—C—	COMMUNICATION (AE
-·-C-·-	COMMUNICATION (LI
—·C—	COMMUNICATION (L
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UN
—E—	ELECTRICAL (AB
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHT
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
	POLE
D.I.	DROP INLET
M.H.	MANHOLE
WV	WATER VALVE
L.P.	LIGHT POLE
O.S.	OIL SEPARATOR
F.H.	FIRE HYDRANT
C.O.	CLEAN OUT
G.V.	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GE
▲	SECURITY LIGH
⊠	PEDESTAL
+++++	ABANDONED UTI

N500,000

E1,831,500

N499,750

RMERS

K.V.A.
225t
225t
750t
750t
300t
300t
10ea.
10
25ea.
25
5ea.
NA

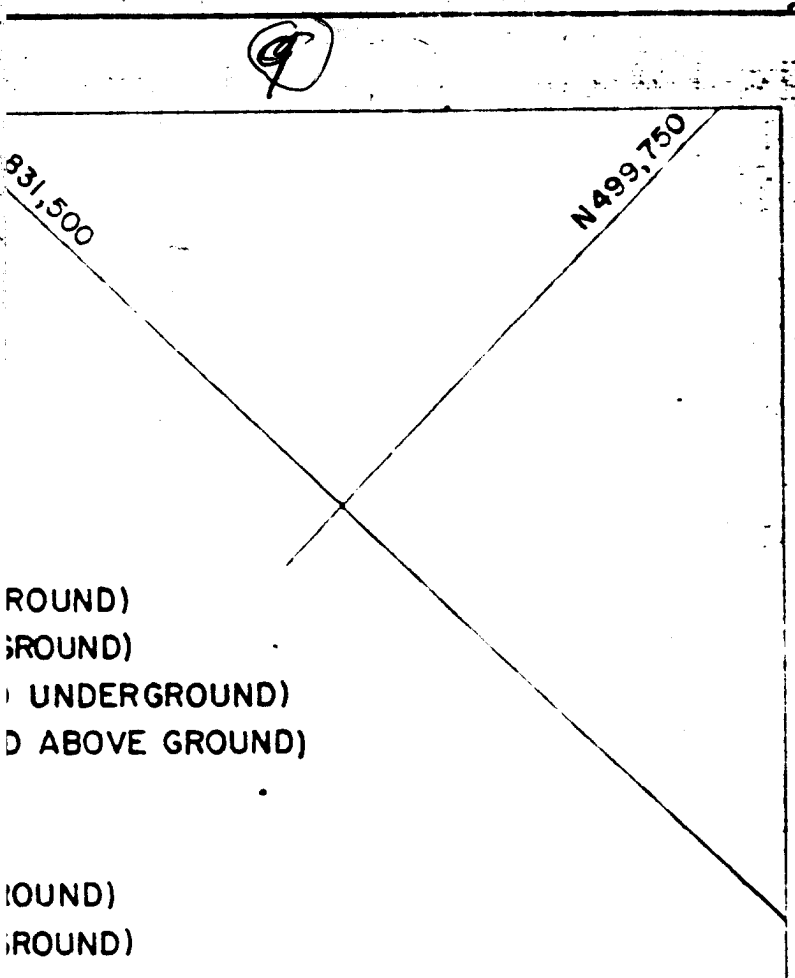
LEGEND

--C--	COMMUNICATION (UNDERGROUND)
—C—	COMMUNICATION (ABOVE GROUND)
-·-C-·-	COMMUNICATION (LEASED UNDERGROUND)
—·C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWERS
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGROUND)
—E—	ELECTRICAL (ABOVE GROUND)
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
⌀	POLE
D.I.□	DROP INLET
M.H.○	MANHOLE
WV●	WATER VALVE
L.P.○	LIGHT POLE
O.S.□	OIL SEPARATOR
F.H.	FIRE HYDRANT
C.O.●	CLEAN OUT
G.V.●	GAS VALVE
T R.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⊠	PEDESTAL
	ABANDONED UTILITY

SANITARY SEWERS

MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.50	849.00
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	[illegible]	871.15
M.H.-G	[illegible]	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.[illegible]2
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44

N499



ROUND)
GROUND)
UNDERGROUND)
D ABOVE GROUND)

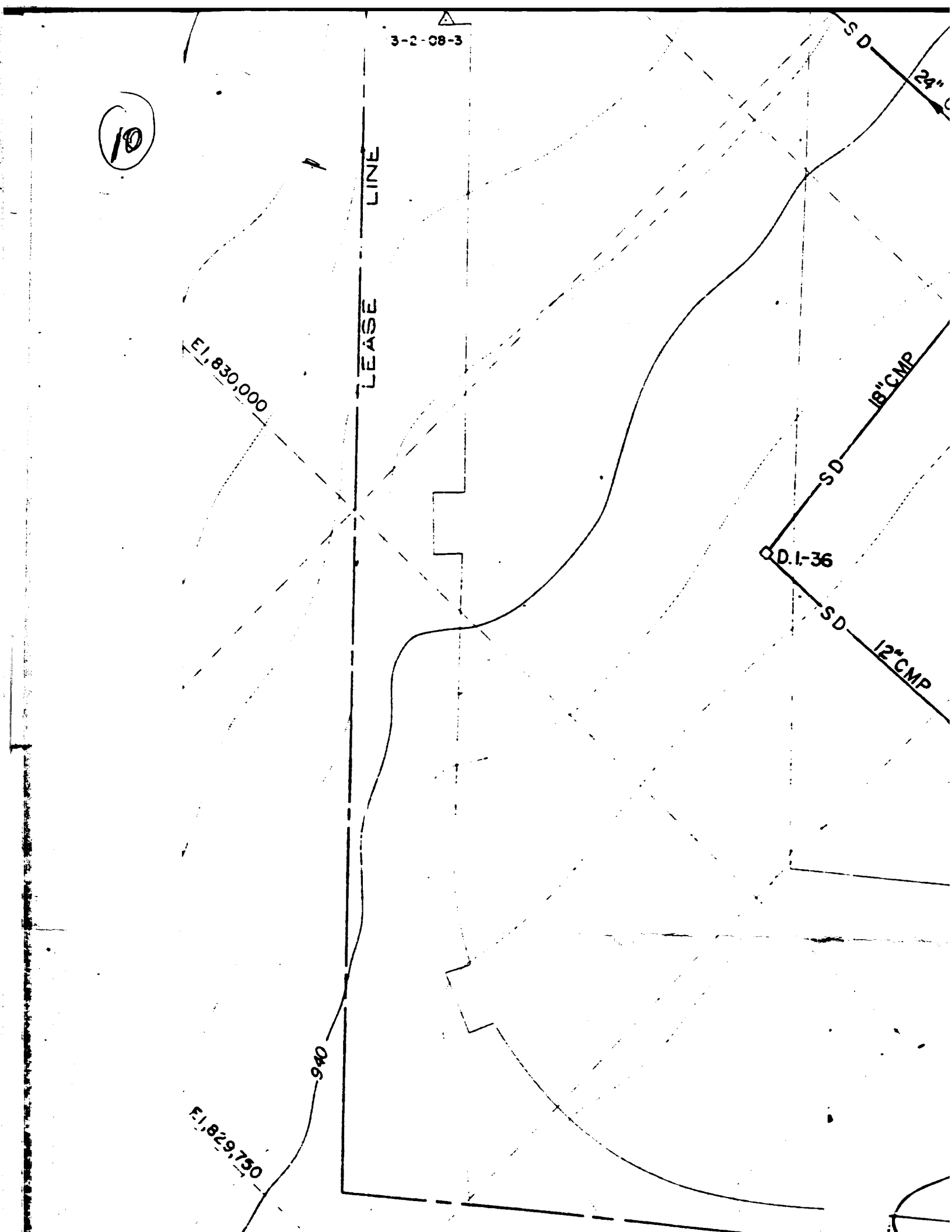
OUND)
GROUND)

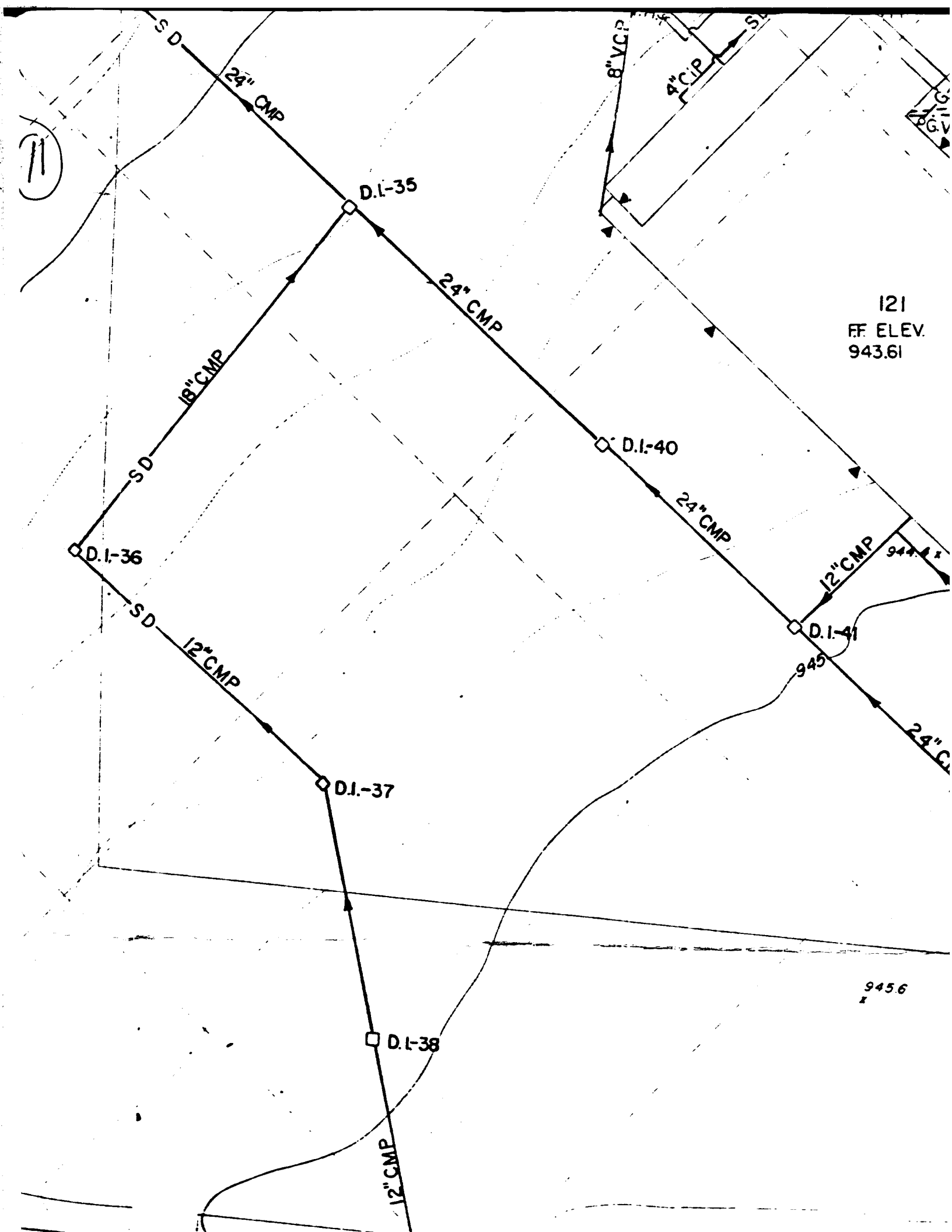
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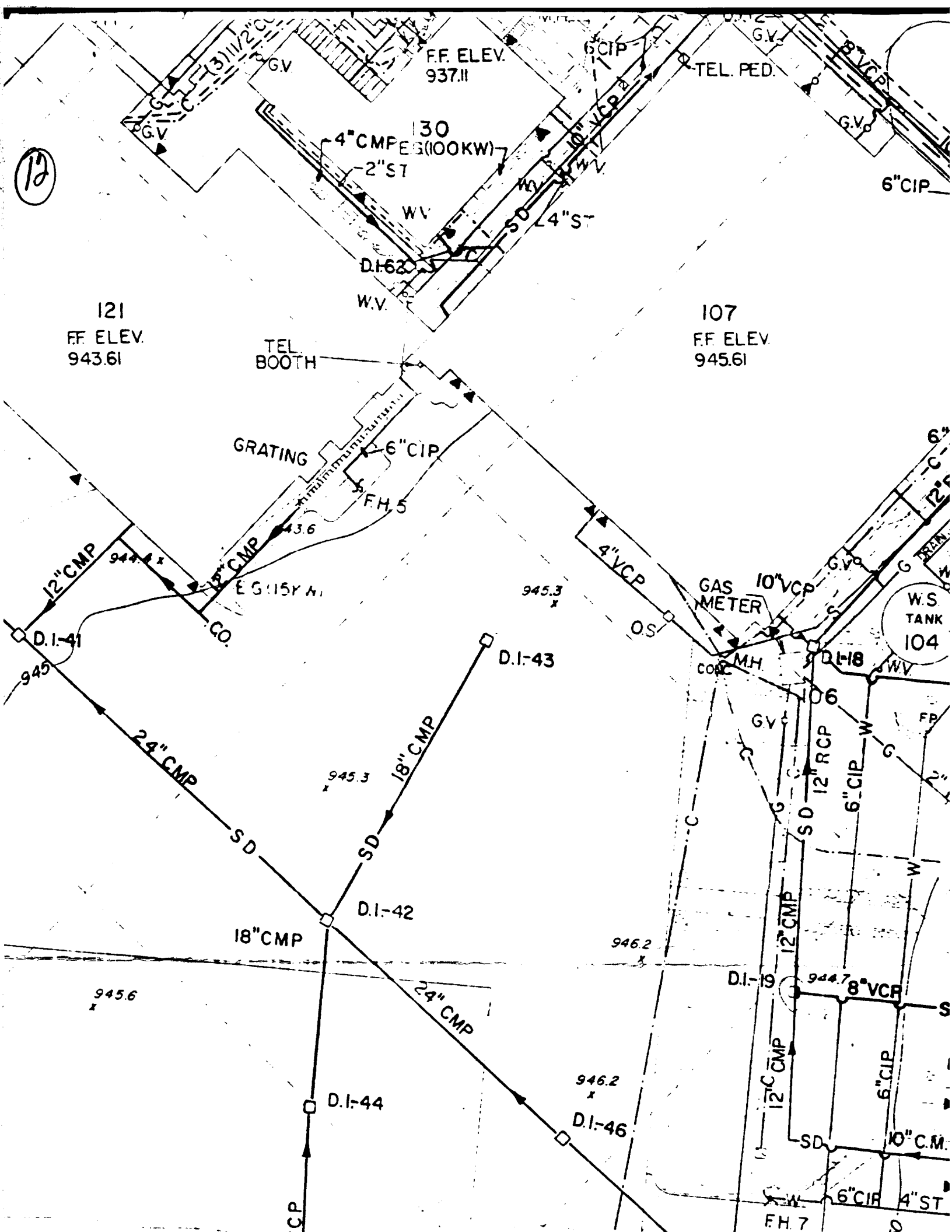
SANITARY SEWERS

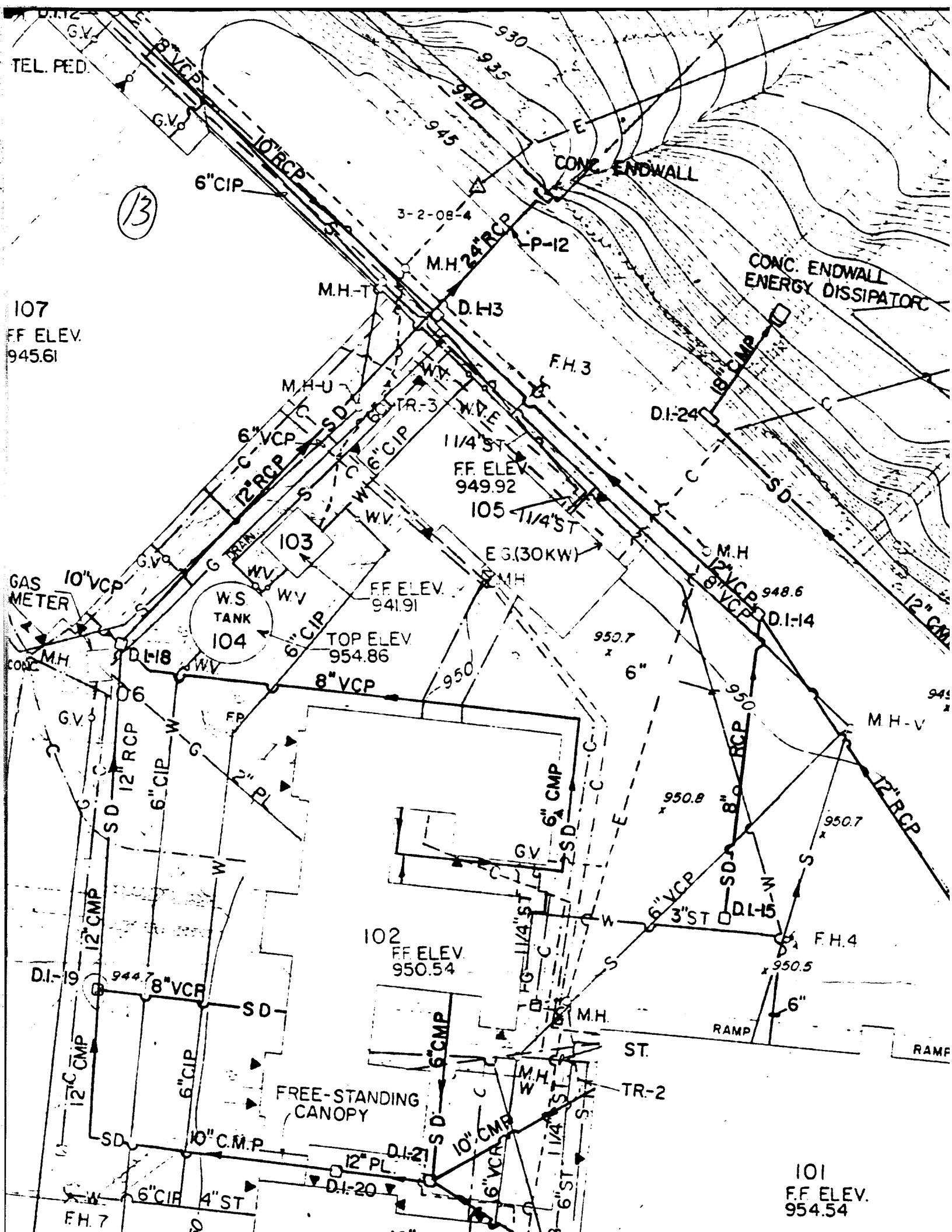
MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.50	849.00
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	[illegible]	871.15
M.H.-G	[illegible]	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.02
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44

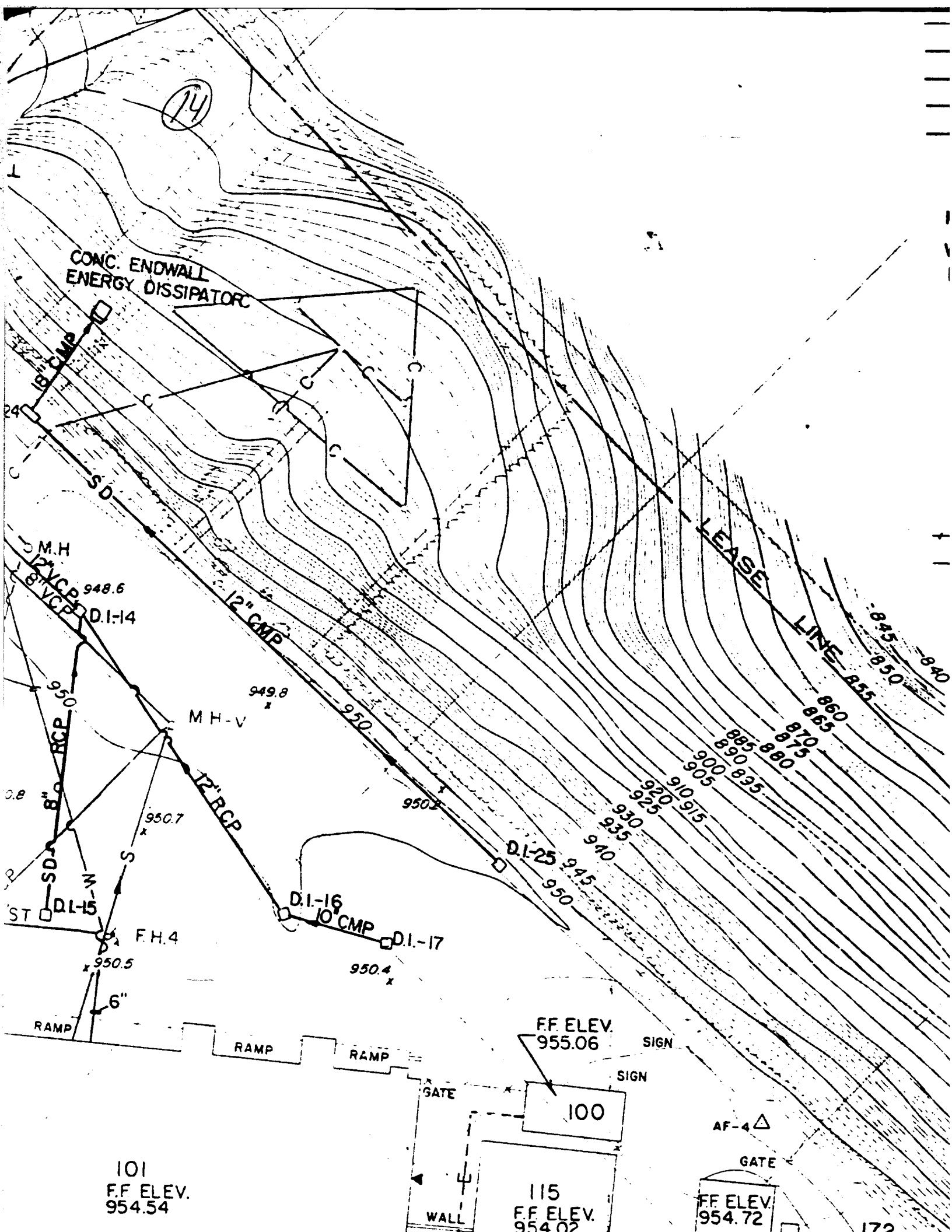
N499,500


10
3-2-08-3
LEASE LINE
E1,830,000
E1,829,750
940
S D
24"
18" CMP
S D
D.I.-36
S D
12" CMP


SD
24" CMP
D.I.-35
8"VCP
4"C.I.P
121
F.F. ELEV.
943.61
24" CMP
18"CMP
SD
D.I.-40
D.I.-36
24"CMP
12"CMP
D.I.-41
SD
12"CMP
945
D.I.-37
945.6
D.I.-38
12"CMP


(12)
F.F. ELEV. 937.11
130
4"CMP
EG(100KW)
2"ST
W.V.
S.D.
4"ST
D.I-62
6"CIP
TEL. PED.
8"VCP
10"VCP
G.V.
(3)1 1/2"C
121
F.F. ELEV. 943.61
TEL BOOTH
107
F.F. ELEV. 945.61
GRATING
6"CIP
F.H. 5
943.6
12"CMP
944.4
EG(15KW)
CO.
D.I-41
945
945.3
4"VCP
O.S.
GAS METER
10"VCP
W.S. TANK 104
M.H.
D.I-18
W.V.
D.I-43
24"CMP
S.D.
18"CMP
D.I-42
945.3
946.2
D.I-19
944.7
8"VCP
12"RCP
6"CIP
12"CMP
945.6
946.2
D.I-44
D.I-46
10"C.M.
6"CIP
4"ST
F.H. 7


TEL. PED.
G.V.
8"VCP
10"RCP
6"CIP
930
935
940
945
CONC. ENDWALL
3-2-08-4
M.H.
24"RCP
P-12
13
107
F.F. ELEV.
945.61
M.H-T
D.I-3
F.H.3
CONC. ENDWALL
ENERGY DISSIPATOR
18"CMP
D.I-24
M.H-U
TR-3
W.V.
6"VCP
S.D.
12"RCP
6"CIP
1 1/4"ST
F.F. ELEV.
949.92
105
E.G.(30KW)
M.H
12"VCP
8"VCP
948.6
D.I-14
12"CMP
103
TRAN.
GAS METER
10"VCP
W.S. TANK
104
F.F. ELEV.
941.91
TOP ELEV.
954.86
D.I-18
CONC.
M.H
106
8"VCP
950
950.7
6"
M.H-V
12"RCP
8"RCP
950.8
950.7
FP
2"PL
6"CMP
G.V.
102
F.F. ELEV.
950.54
6"VCP
3"ST
D.I-15
F.H.4
950.5
D.I-19
944.7
8"VCP
12"CMP
M.H.
RAMP
ST.
FREE-STANDING CANOPY
TR-2
10"C.M.P
12"PL
D.I-21
D.I-20
10"CMP
6"VCP
1 1/4"ST
6"ST
4"ST
F.H.7
101
F.F. ELEV.
954.54

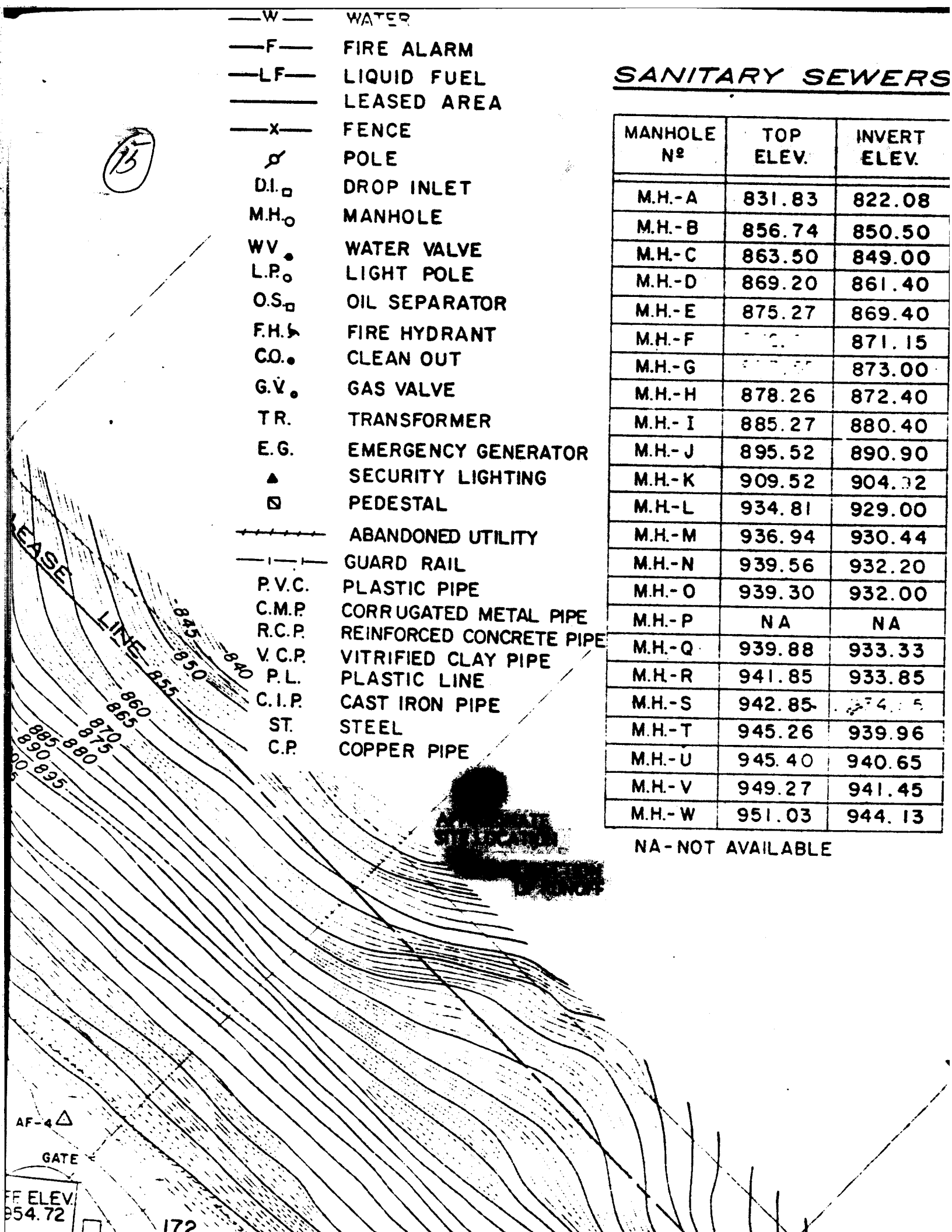

14
CONC. ENDWALL
ENERGY DISSIPATOR
18" CMP
SD
M.H
12"VCP
18"VCP
948.6
D.I-14
12" CMP
949.8
M H-V
950
950
950.2
12" RCP
8" RCP
950.7
SD
D.I-15
D.I-16
10" CMP
D.I-17
D.I-25
F.H.4
950.5
950.4
6"
RAMP
RAMP
RAMP
F.F ELEV.
955.06
SIGN
SIGN
GATE
100
AF-4
GATE
101
F.F ELEV.
954.54
WALL
115
F.F ELEV.
954.02
F.F ELEV.
954.72
172
LEASE LINE
845
850
855
860
865
870
875
880
885
890
835
900
905
910
915
920
925
930
935
940
945
950

—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
	POLE
D.I.	DROP INLET
M.H.	MANHOLE
WV	WATER VALVE
L.P.	LIGHT POLE
O.S.	OIL SEPARATOR
F.H.	FIRE HYDRANT
C.O.	CLEAN OUT
G.V.	GAS VALVE
T R.	TRANSFORMER
E. G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⊠	PEDESTAL
+++++	ABANDONED UTILITY
—|—|—	GUARD RAIL
P. V. C.	PLASTIC PIPE
C.M.P.	CORRUGATED METAL PIPE
R.C.P.	REINFORCED CONCRETE PIPE
V. C.P.	VITRIFIED CLAY PIPE
P. L.	PLASTIC LINE
C. I. P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE

SANITARY SEWERS

MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.50	849.00
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	[illegible]	871.15
M.H.-G	[illegible]	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.02
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44
M.H.-N	939.56	932.20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.88	933.33
M.H.-R	941.85	933.85
M.H.-S	942.85	[illegible]
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

NA-NOT AVAILABLE



W— WATER
F— FIRE ALARM
LF— LIQUID FUEL
— LEASED AREA
X— FENCE
(16)
POLE
DROP INLET
MANHOLE
WATER VALVE
LIGHT POLE
OIL SEPARATOR
FIRE HYDRANT
CLEAN OUT
GAS VALVE
R. TRANSFORMER
G. EMERGENCY GENERATOR
SECURITY LIGHTING
PEDESTAL
ABANDONED UTILITY
GUARD RAIL
V.C. PLASTIC PIPE
M.P. CORRUGATED METAL PIPE
C.P. REINFORCED CONCRETE PIPE
C.P. VITRIFIED CLAY PIPE
L. PLASTIC LINE
.P. CAST IRON PIPE
T. STEEL
.P. COPPER PIPE

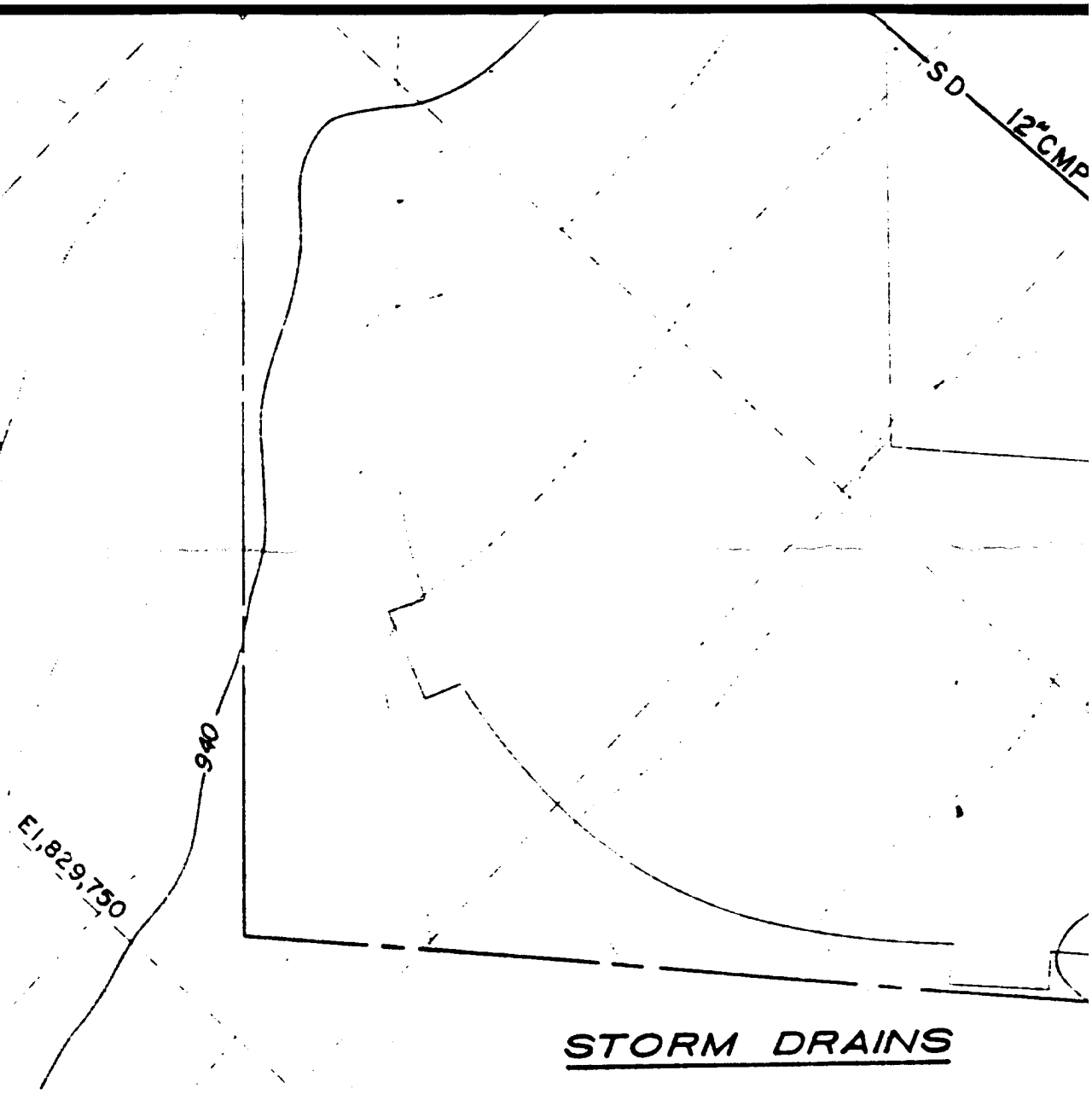
SANITARY SEWERS

MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.50	849.00
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	[illegible]	871.15
M.H.-G	[illegible]	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.32
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44
M.H.-N	939.56	932.20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.88	933.33
M.H.-R	941.85	933.85
M.H.-S	942.85	[illegible]
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

NA-NOT AVAILABLE

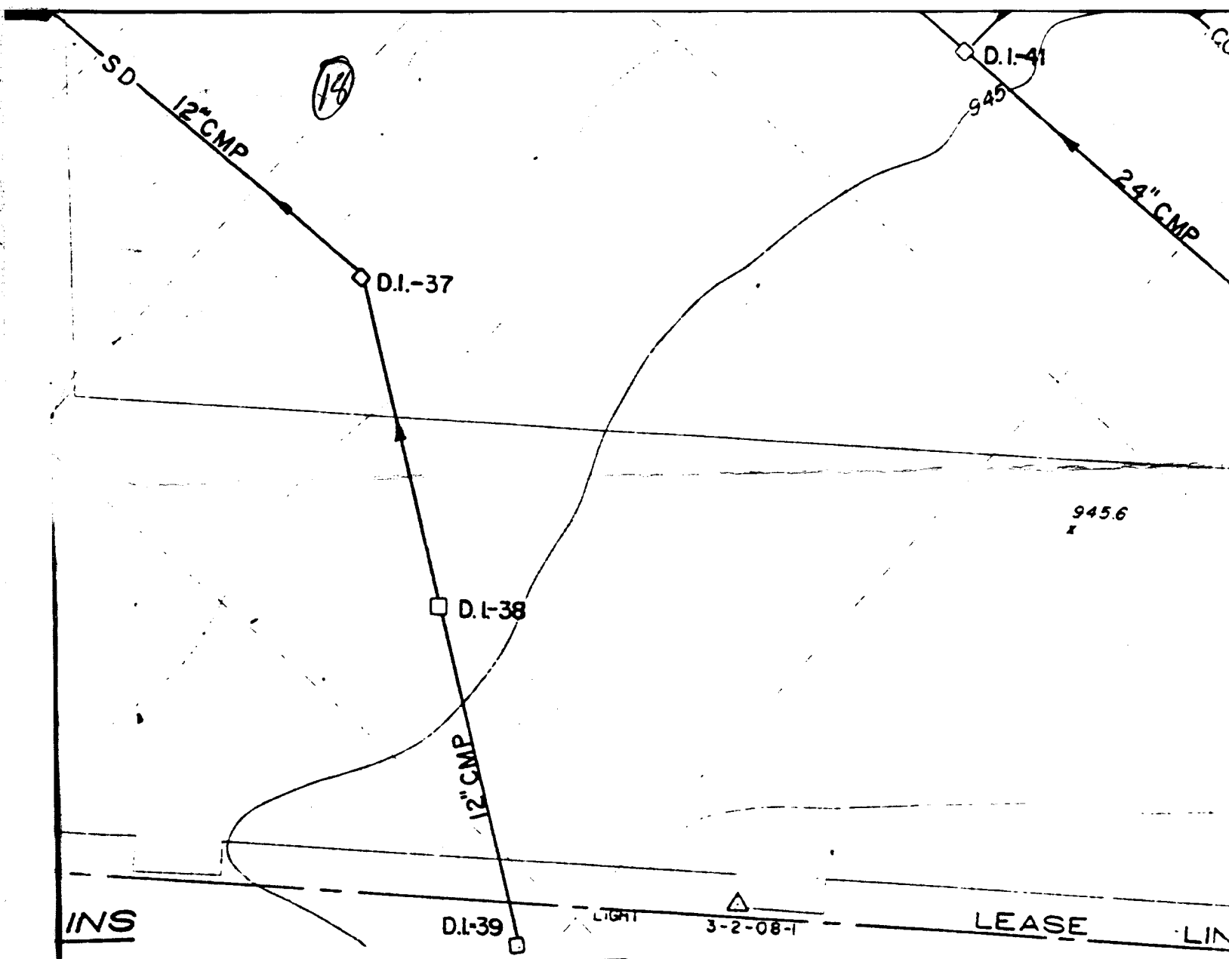
N499,500

N499,250



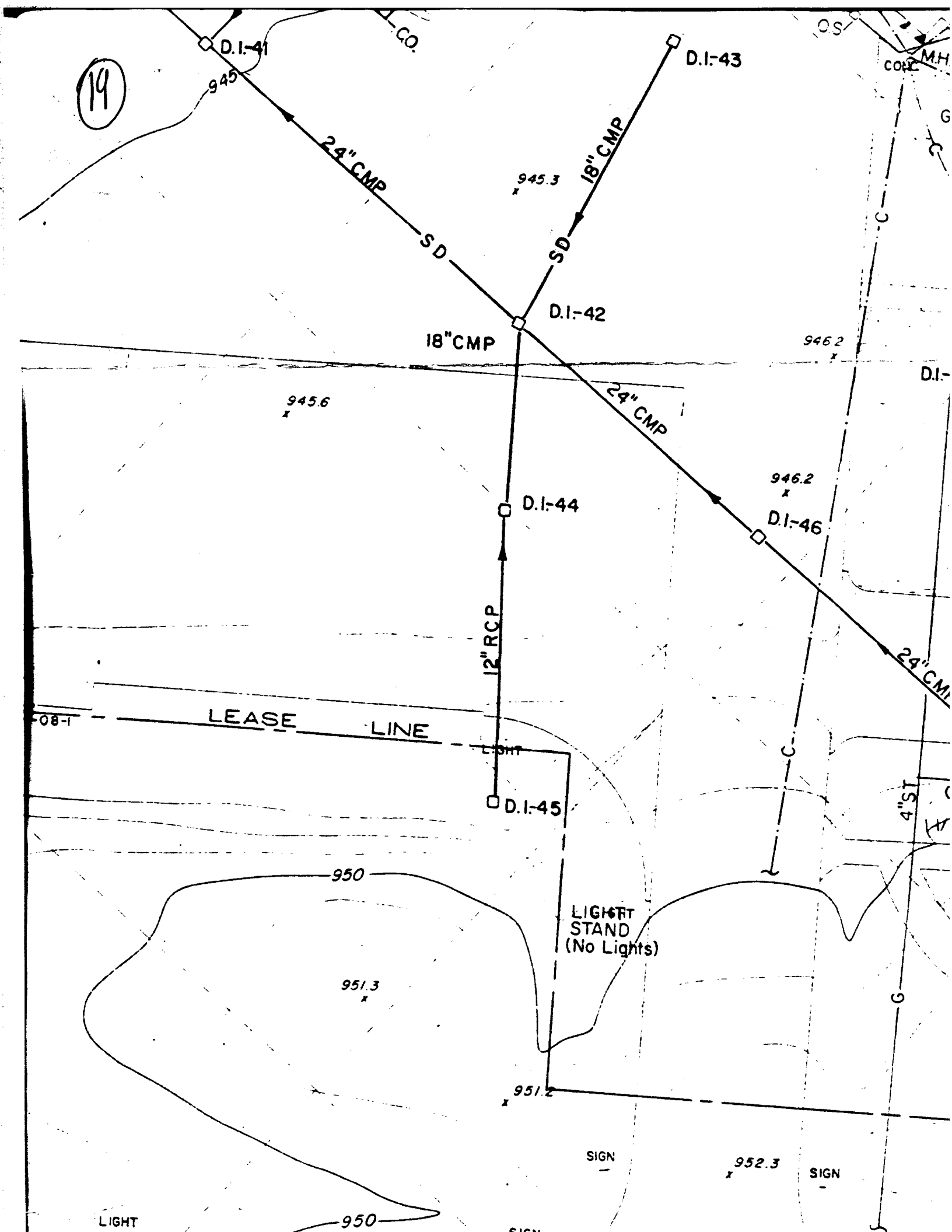
STORM DRAINS

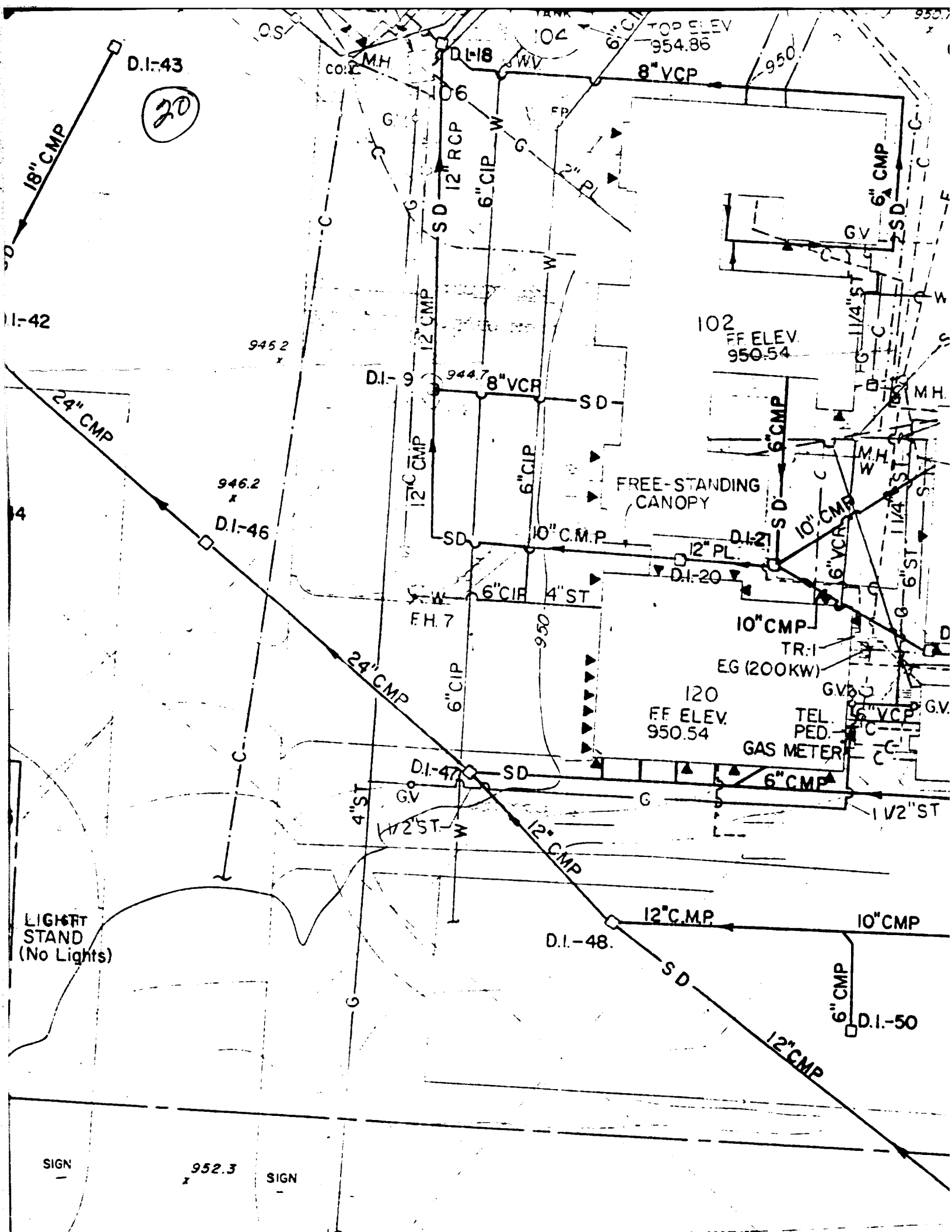
DROP INLET Nº	TOP ELEV.	INVERT ELEV.	DROP INLET Nº	TOP ELEV.	INVERT ELEV.	PI N
D.I.-1	804.50	803.83	D.I.-33	936.04	925.95	P
D.I.-2	923.34	920.34	D.I.-34	938.25	931.05	P
D.I.-3	933.20	922.20	D.I.-35	940.49	933.20	P
D.I.-4	931.68	922.18	D.I.-36	940.76	936.49	P
D.I.-5	932.81	928.81	D.I.-37	942.56	938.85	P
D.I.-6	935.87	931.67	D.I.-38	944.31	940.71	P
D.I.-7	937.07	930.57	D.I.-39	944.78	942.11	P
D.I.-8	937.24	933.24	D.I.-40	942.71	935.32	P
D.I.-9	936.30	931.90	D.I.-41	942.67	935.27	P
D.I.-10	937.02	932.82	D.I.-42	944.38	939.91	P
D.I.-11	939.18	934.68	D.I.-43	944.65	941.10	P
D.I.-12	943.03	938.58	D.I.-44	944.41	940.51	P
D.I.-13	945.42	938.17	D.I.-45	945.14	941.74	N
D.I.-14	948.22	943.92	D.I.-46	945.49	941.64	

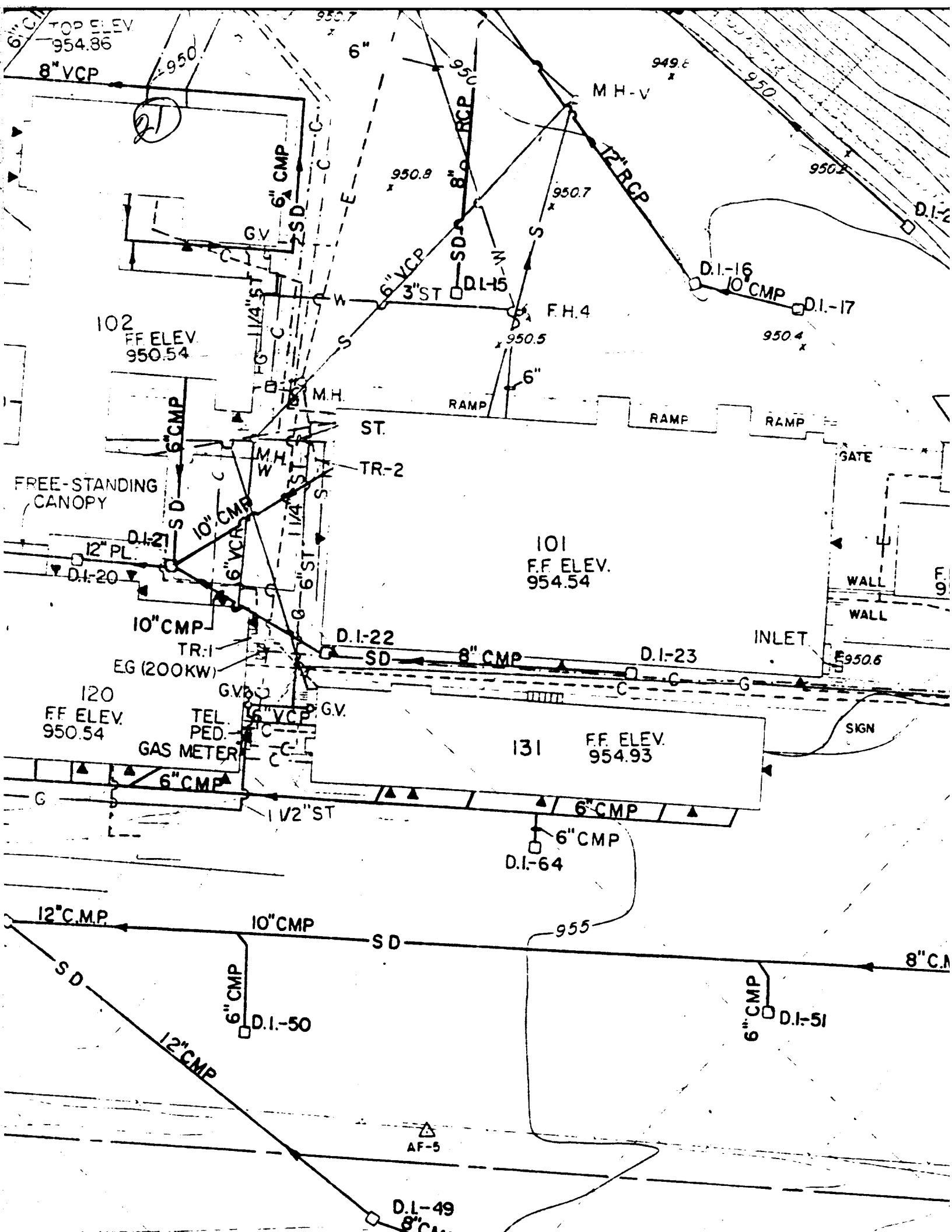


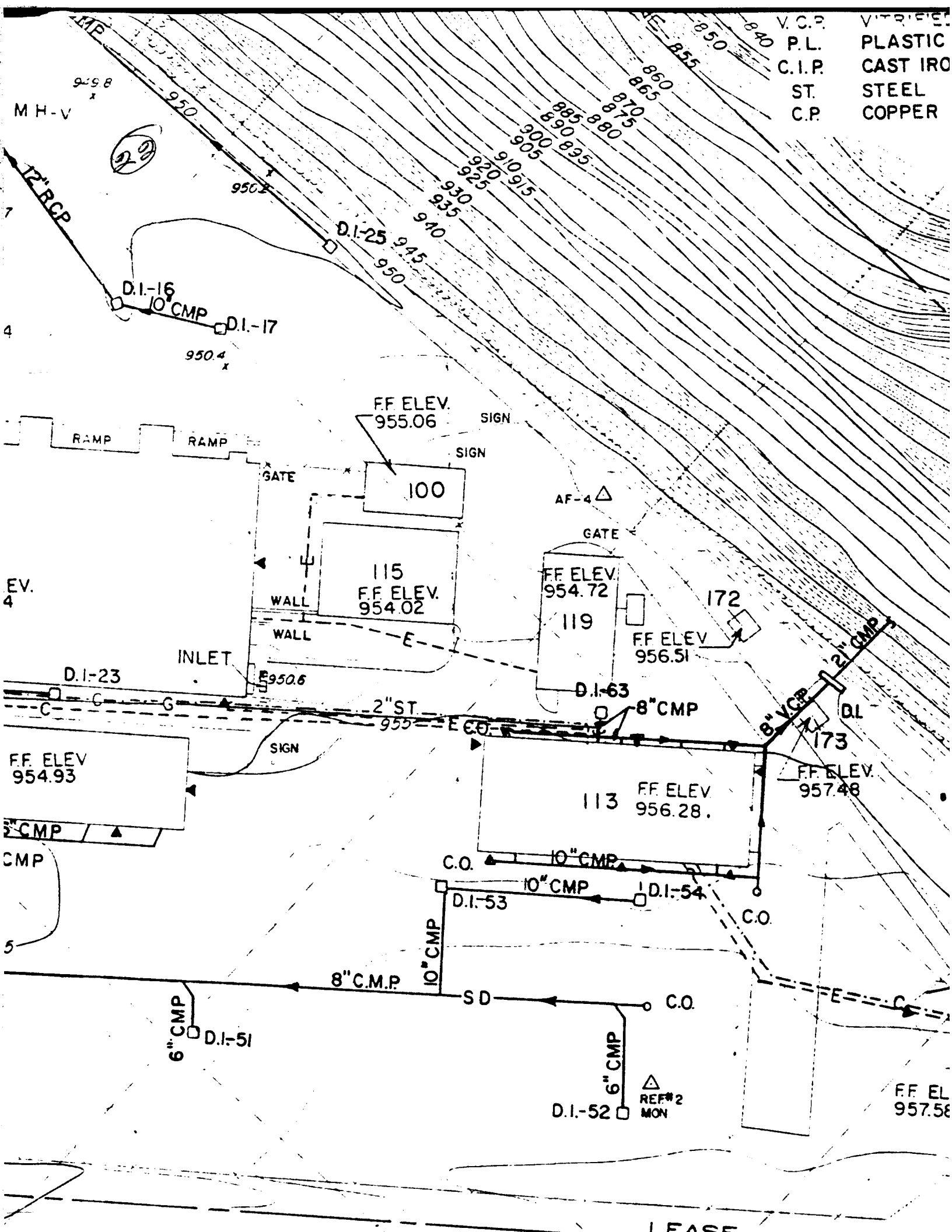
INVERT ELEV.	PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV
925.95	P-1	803.83	800.53
931.05	P-2	843.70	838.30
933.20	P-3	836.50	832.10
936.49	P-4	856.01	853.23
938.85	P-5	869.67	866.31
940.71	P-6	868.57	867.12
942.11	P-7	871.91	870.44
935.32	P-8	877.85	874.29
935.27	P-9	884.67	881.50
939.91	P-10	899.71	898.06
941.10	P-11	920.34	895.31
940.51	P-12	938.17	937.26
941.74			
941.64			
943.54			

NA – NOT AVAILABLE


19
D.I-41
945
24" CMP
SD
D.I-43
18" CMP
SD
945.3
D.I-42
18" CMP
946.2
945.6
24" CMP
946.2
D.I-44
D.I-46
12" RCP
24" CMP
LEASE LINE
D.I-45
950
LIGHT STAND
(No Lights)
951.3
951.2
SIGN
952.3
SIGN
LIGHT
950
4" ST
C
G


D.I.-43
18" CMP
20
D.I.-42
946.2
24" CMP
D.I.-46
946.2
D.I.-18
M.H.
8" VCP
TOP ELEV
954.86
12" RCP
6" CIP
12" CMP
D.I.-9
944.7
8" VCP
SD
6" CIP
12" CMP
10" C.M.P
12" PL
D.I.-21
D.I.-20
6" CIP
4" ST
F.H. 7
6" CMP
102
FF ELEV.
950.54
FREE-STANDING
CANOPY
10" CMP
6" VCP
1 1/4" ST
M.H.
6" ST
10" CMP
TR.1
EG (200KW)
120
FF ELEV.
950.54
TEL.
PED.
GAS METER
G.V.
6" VCP
D.I.-47
SD
6" CMP
1 1/2" ST
4" ST
1 1/2" ST
12" CMP
LIGHT
STAND
(No Lights)
12" C.M.P
10" CMP
D.I.-48.
SD
6" CMP
D.I.-50
12" CMP
SIGN
952.3
SIGN

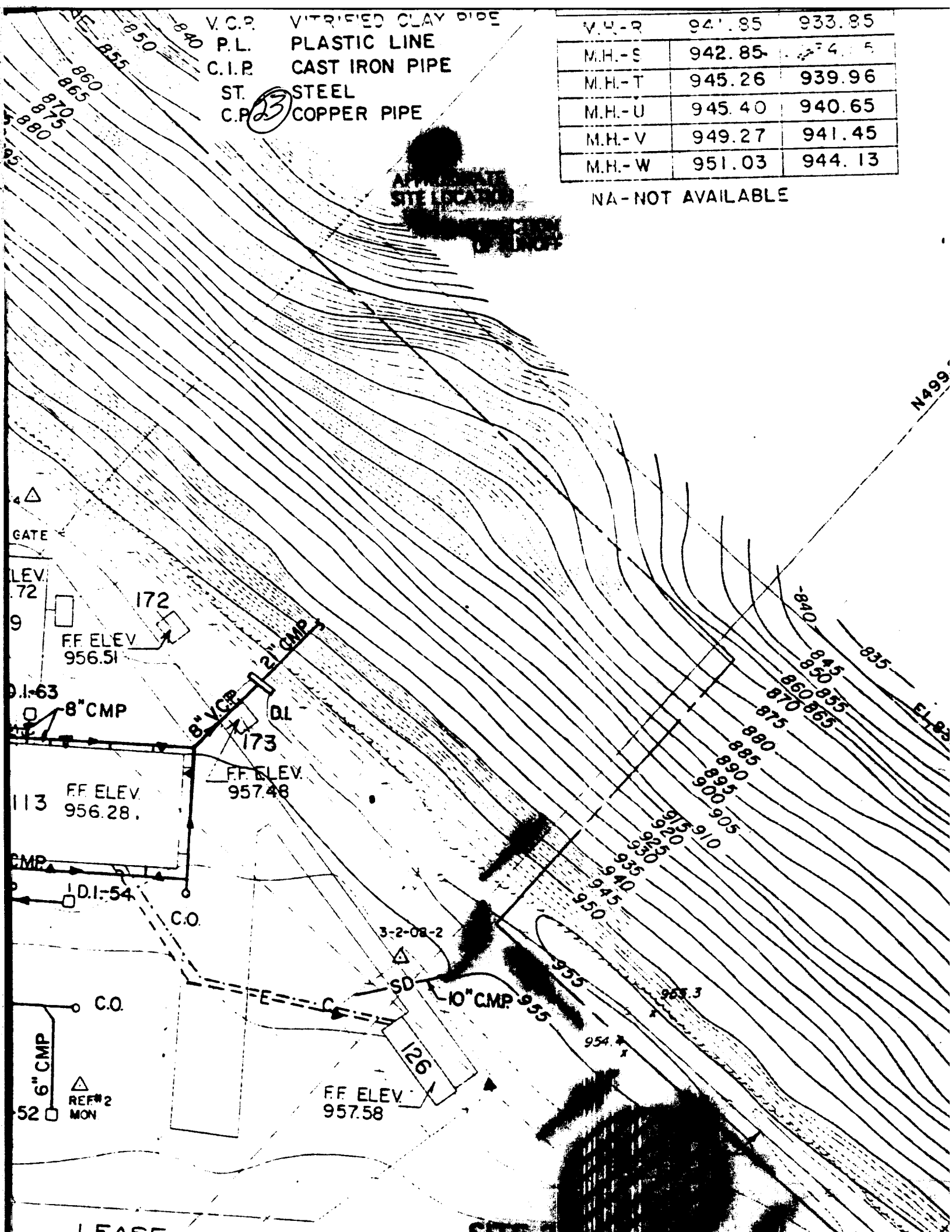

TOP ELEV 954.86
8" VCP
950
6"
950.7
949.6
950
M H-V
12" RCP
950.8
8"
950.7
950.2
D.I-2
6" CMP
SD
GV
6" VCP
3" ST
D.I-15
D.I-16
10" CMP
D.I-17
F.H.4
950.5
950.4
102
FF ELEV
950.54
1 1/4" ST
FG
M.H.
RAMP
RAMP
RAMP
ST.
GATE
M.H
W
TR-2
FREE-STANDING
CANOPY
10" CMP
6" VCP
1 1/4" ST
D.I-21
12" PL
D.I-20
101
F.F. ELEV.
954.54
WALL
WALL
10" CMP
TR-1
EG (200KW)
D.I-22
SD
8" CMP
D.I-23
INLET
950.6
G.V.
120
F.F ELEV.
950.54
TEL.
PED.
GAS METER
6" VCP
G.V.
131
F.F. ELEV.
954.93
SIGN
6" CMP
1 V2" ST
6" CMP
D.I-64
12" C.M.P
10" CMP
SD
955
8" C.M
6" CMP
D.I-50
6" CMP
D.I-51
12" CMP
AF-5
D.I-49
8" C.M


V.C.P. VITRIFIED
P.L. PLASTIC
C.I.P. CAST IRO
ST. STEEL
C.P. COPPER
MH-V
950
955
860
865
870
875
880
885
890
835
900
905
910
915
920
925
930
935
940
945
950
12" RCP
D.I-25
D.I-16
10" CMP
D.I-17
950.4
RAMP
RAMP
F.F. ELEV.
955.06
SIGN
SIGN
GATE
100
AF-4
GATE
115
F.F. ELEV.
954.02
WALL
WALL
F.F. ELEV.
954.72
119
172
F.F. ELEV
956.51
INLET
950.6
D.I-23
D.I-63
8" CMP
2" ST.
955
C.O.
8" V.C.P.
2" CMP
D.I.
173
F.F. ELEV.
957.48
SIGN
F.F. ELEV
954.93
113
F.F. ELEV
956.28.
C.O.
10" CMP
10" CMP
D.I-53
D.I-54
C.O.
10" CMP
8" C.M.P.
S D
C.O.
6" CMP
D.I-51
6" CMP
D.I-52
REF#2
MON
F.F. EL
957.58
LEASE

V.C.P. VITRIFIED CLAY PIPE
P.L. PLASTIC LINE
C.I.P. CAST IRON PIPE
ST. STEEL
C.P. COPPER PIPE

M.H.-R	941.85	933.85
M.H.-S	942.85	[illegible]
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

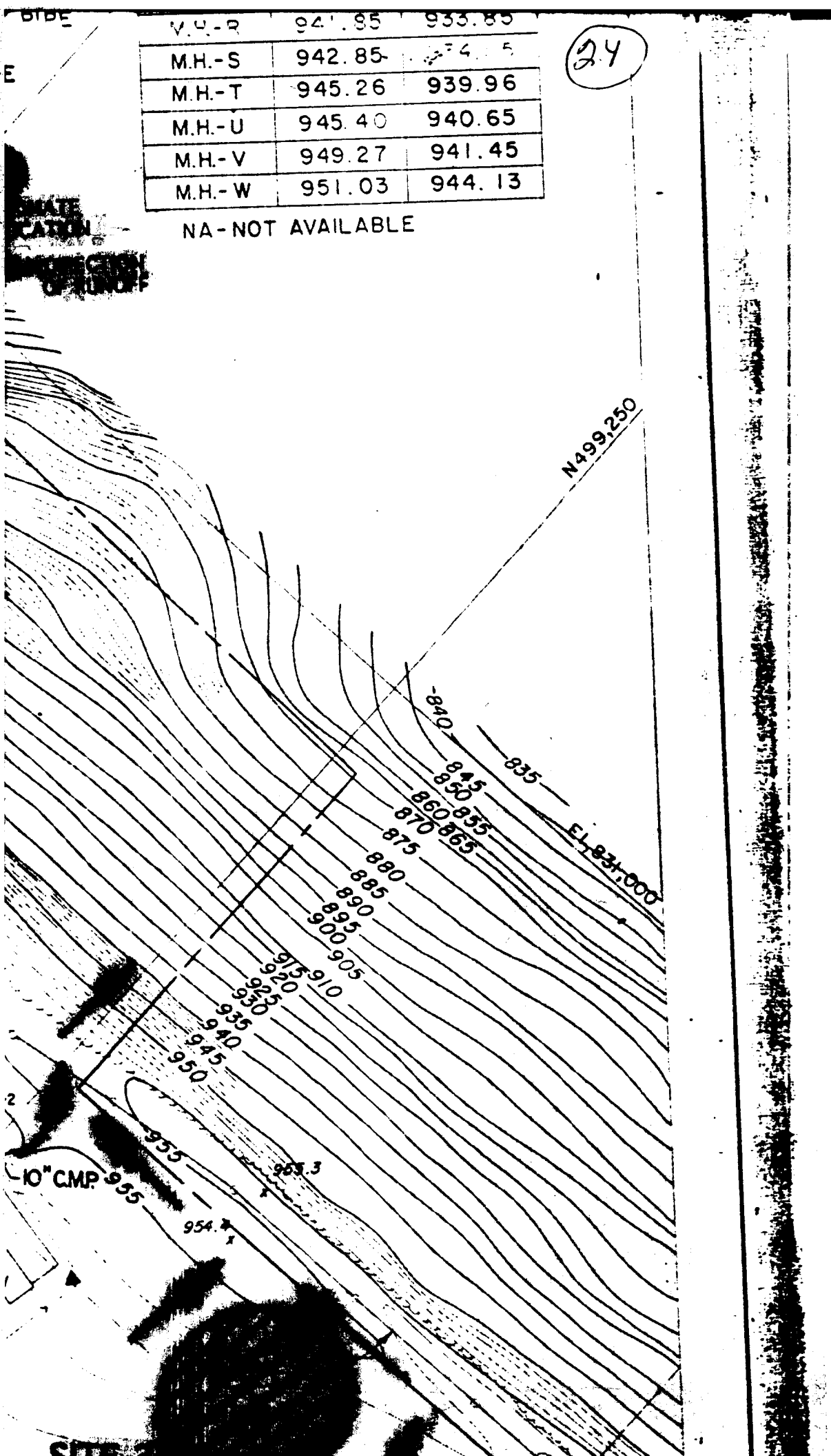
NA-NOT AVAILABLE



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M.H.-S	942.85	[illegible]
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

NA-NOT AVAILABLE

24

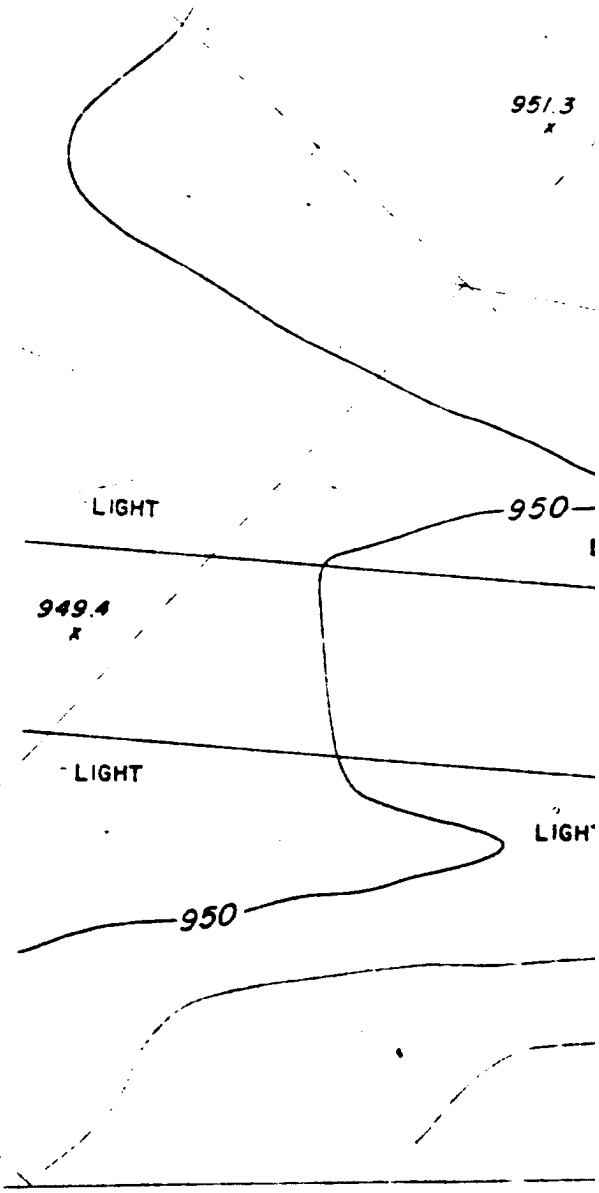


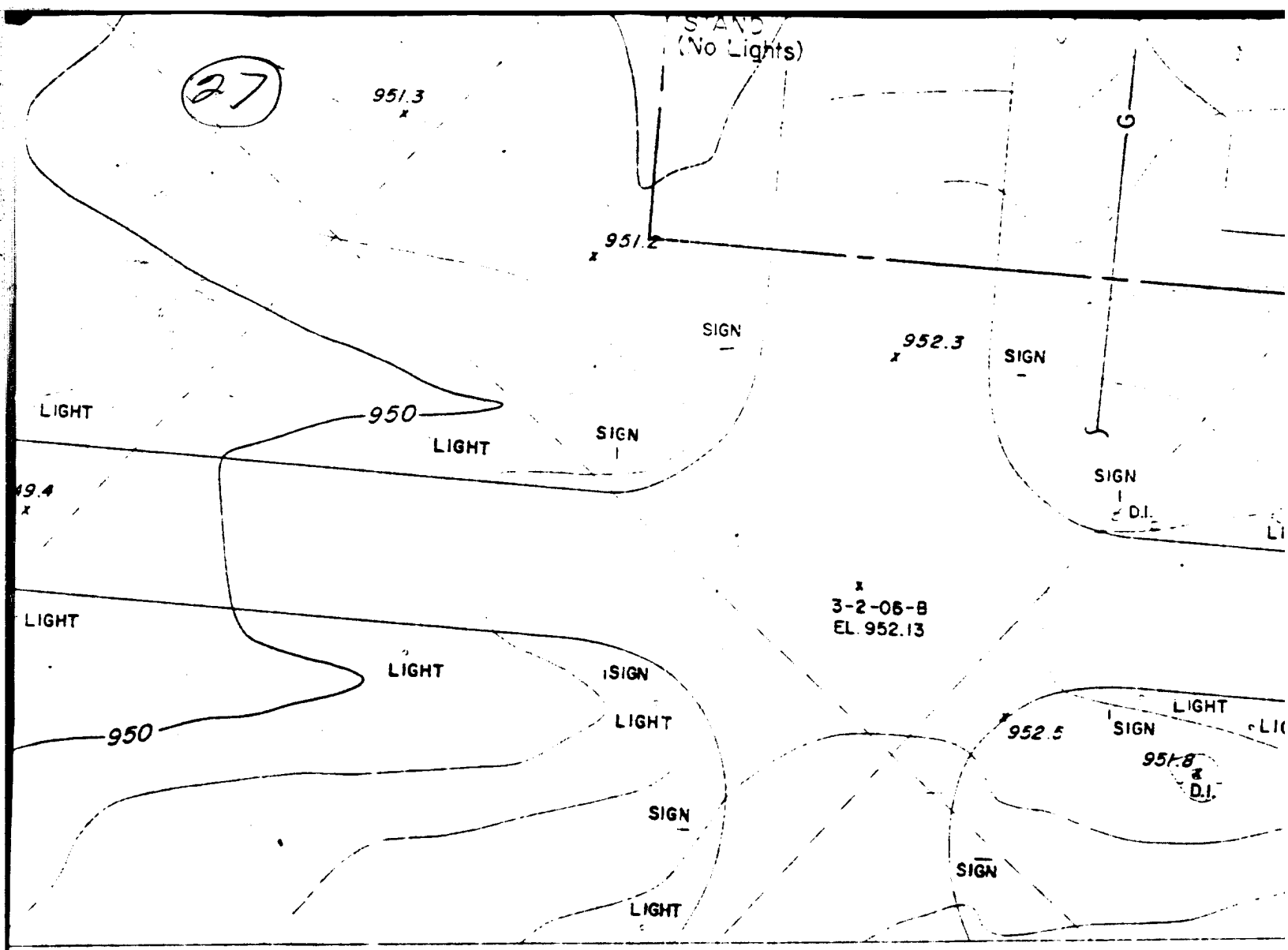
D.I.-5	932.81	928.81	D.I.-37	942.56	938.85	P-5
D.I.-6	935.87	931.67	D.I.-38	944.31	940.71	P-6
D.I.-7	937.07	930.57	D.I.-39	944.78	942.11	P-7
D.I.-8	937.24	933.24	D.I.-40	942.71	935.32	P-8
D.I.-9	936.30	931.90	D.I.-41	942.67	935.27	P-9
D.I.-10	937.02	932.82	D.I.-42	944.38	939.91	P-10
D.I.-11	939.18	934.68	D.I.-43	944.65	941.10	P-11
D.I.-12	943.03	938.58	D.I.-44	944.41	940.51	P-12
D.I.-13	945.42	938.17	D.I.-45	945.14	941.74	
D.I.-14	948.22	943.92	D.I.-46	945.49	941.64	NA
D.I.-15	949.79	947.69	D.I.-47	947.79	943.54	
D.I.-16	949.49	946.99	D.I.-48	951.16	946.06	
D.I.-17	949.96	947.46	D.I.-49	952.76	949.11	
D.I.-18	944.64	938.64	D.I.-50	952.74	950.07	
D.I.-19	944.21	940.11	D.I.-51	955.32	952.72	
D.I.-20	949.73	947.94	D.I.-52	957.27	954.77	
D.I.-21	950.61	948.11	D.I.-53	955.71	954.21	
D.I.-22	951.43	949.61	D.I.-54	955.71	954.38	
D.I.-23	952.93	951.43	D.I.-55	873.17	869.17	
D.I.-24	947.23	942.45	D.I.-56	873.21	870.79	
D.I.-25	948.56	946.46	D.I.-57	717.11	713.40	
D.I.-26	933.59	923.86	D.I.-58	699.97	698.16	
D.I.-27	927.56	925.14	D.I.-59	705.99	702.49	
D.I.-28	939.70	937.03	D.I.-60	NA	NA	
D.I-29	942.17	936.84	D.I. 61	942.08	939.41	
D.I.-30	940.22	938.20	D.I.-62	943.56	943.23	
D.I.-31	940.14	938.14	D.I.-63	954.40	952.22	
D.I.-32	940.37	938.19	D.I.-64	953.93	952.43	
			D.I.-65	931.39	926.39	

938.85	P-5	869.67	865.3
940.71	P-6	868.57	867. 2
942 .1	P-7	871.91	870.44
935.32	P-8	877.85	874.29
935.27	P-9	884.67	881.50
939.91	P-10	899.71	898.06
941.10	P-11	920.34	895.31
940.51	P-12	938. 17	937.26
941.74			
941.64			
943.54			
946.06			
949. 11			
950.07			
952.72			
954.77			
954.21			
954.38			
869. 17			
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952. 22			
952. 43			
926. 39			

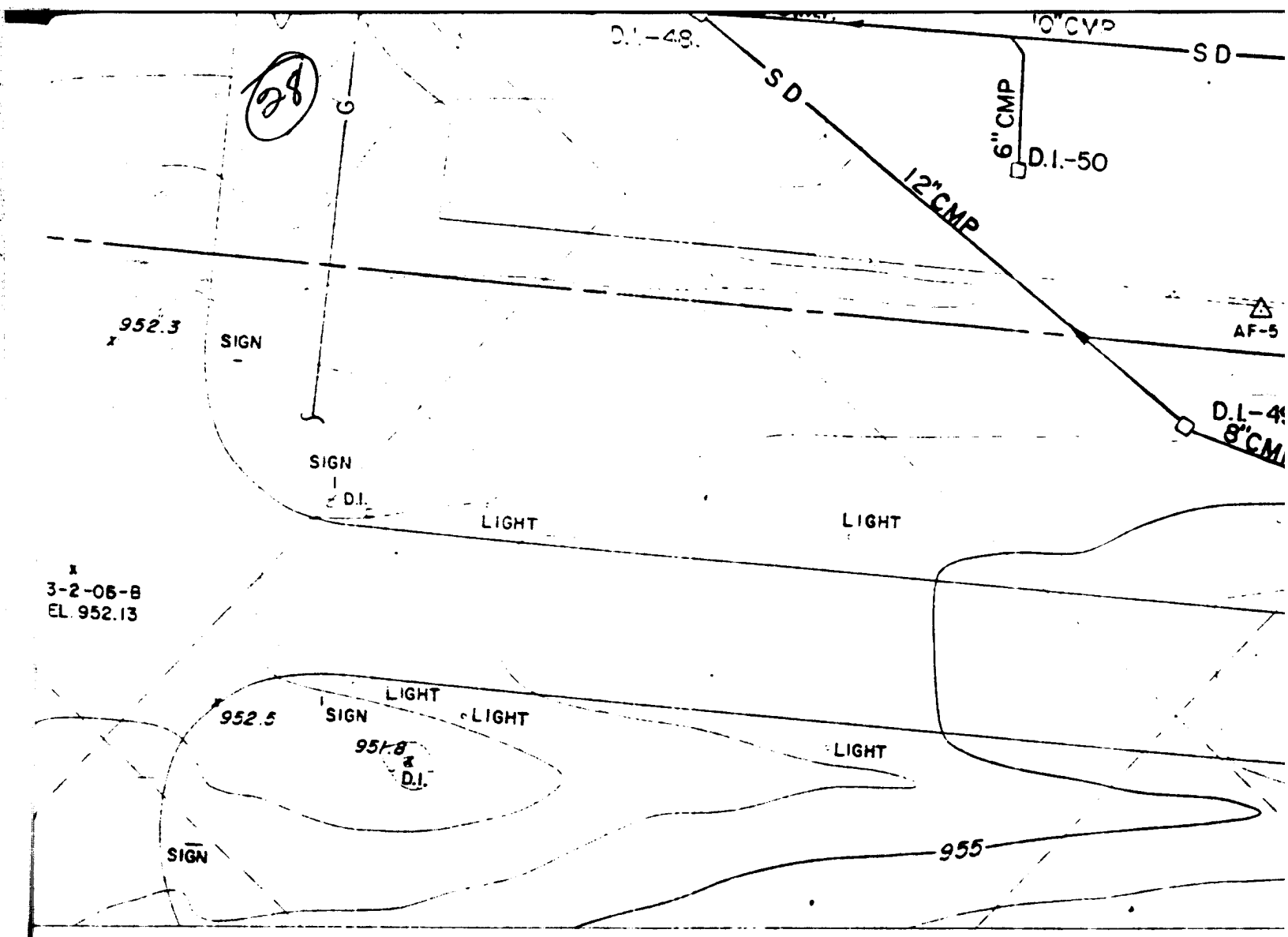
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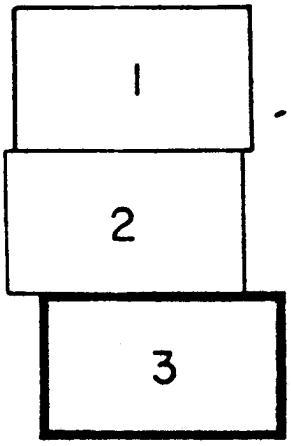




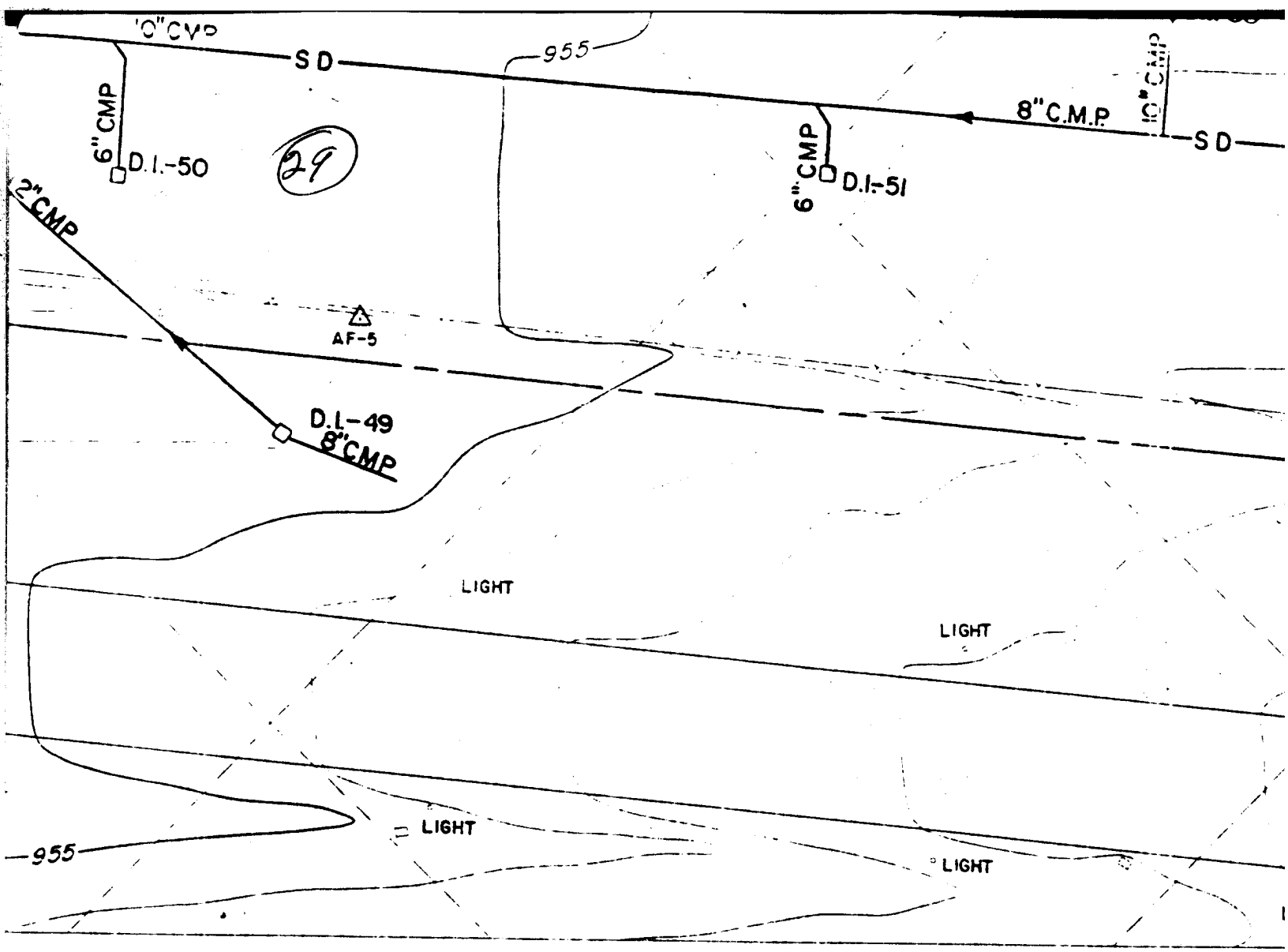
GRID BASED ON WEST VIR
COORDINATE SYSTEM (SOU
VERTICAL CONTROL BASE
DATUM.



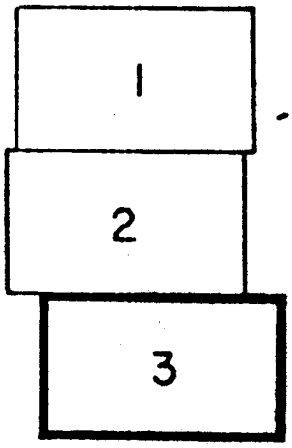
INDEX TO SHEETS

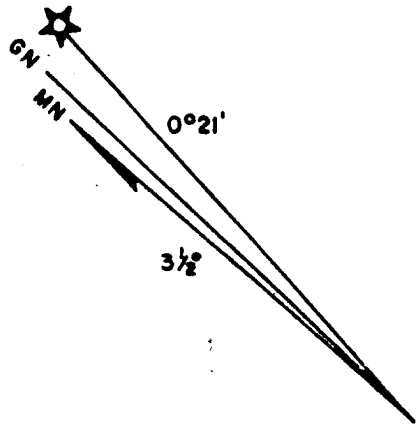


GRID BASED ON WEST VIRGINIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) 1927 N.A. DATUM. VERTICAL CONTROL BASED ON 1929 MEAN SEA LEVEL DATUM.



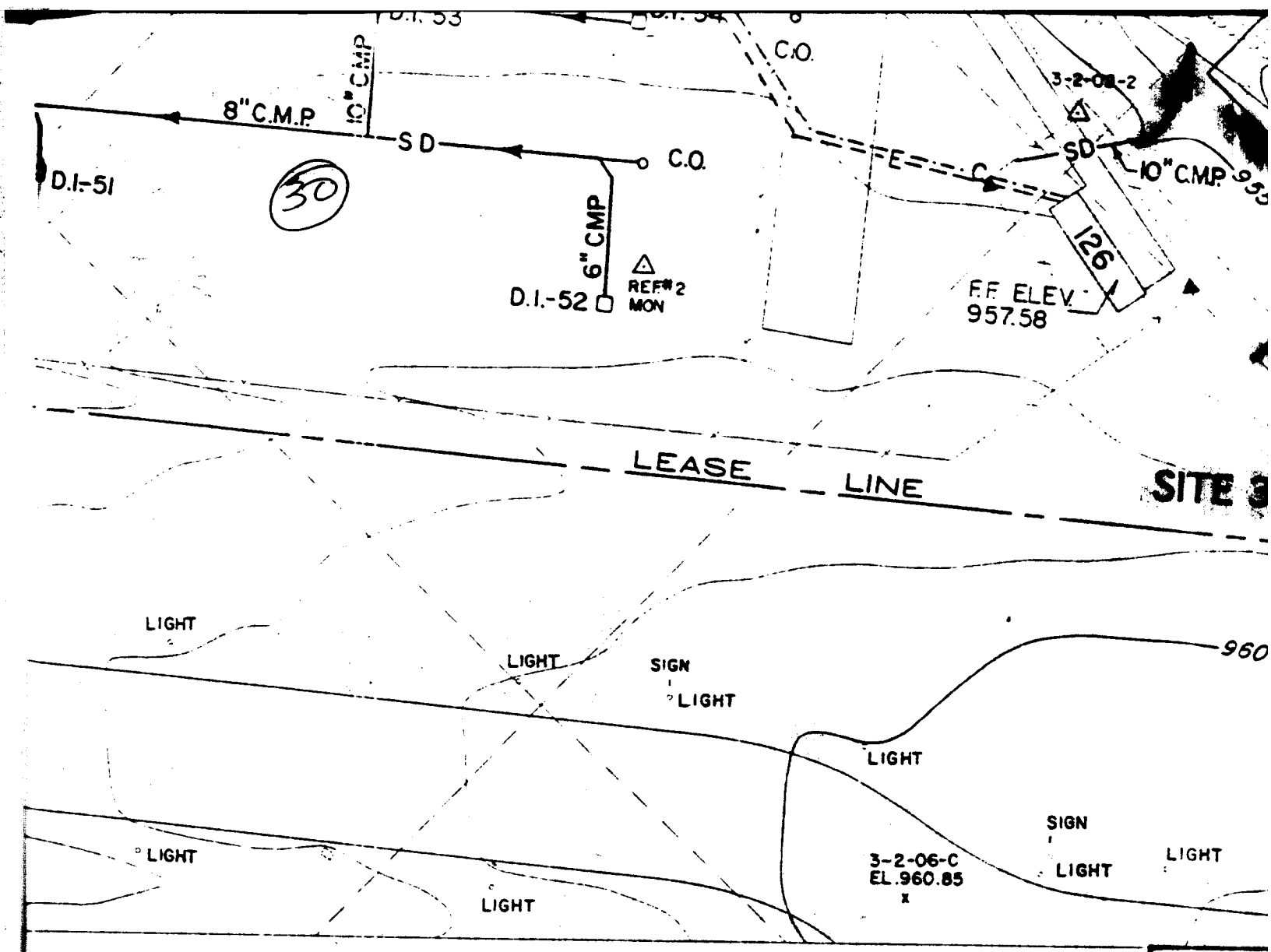
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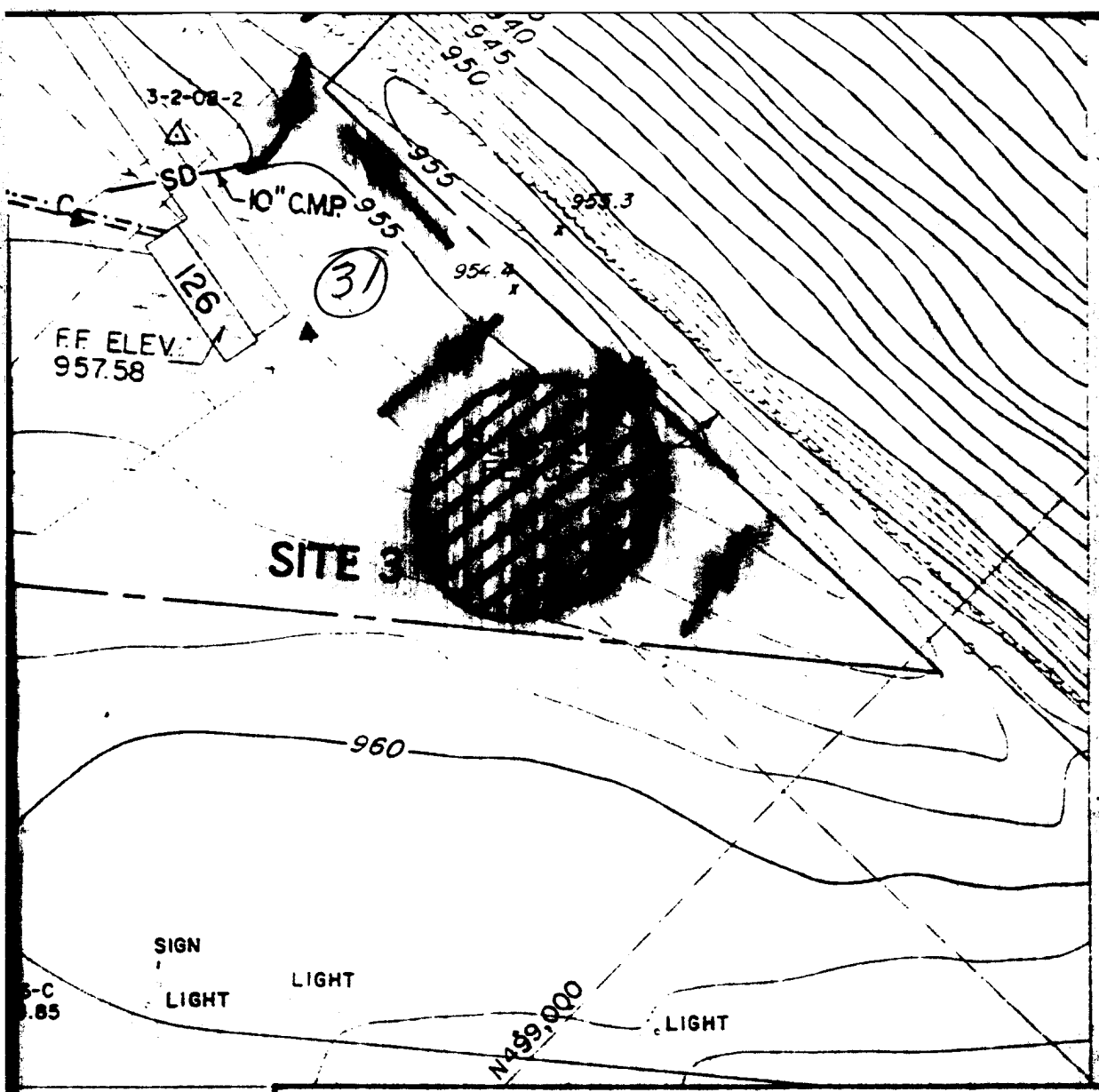






SCALE IN FEET


D.I. 53
C.O.
10" C.M.P
8" C.M.P
S D
C.O.
D.I-51
30
6" CMP
D.I-52
REF #2 MON
3-2-06-2
SD
10" C.M.P
126
F.F. ELEV. 957.58
LEASE LINE
SITE
LIGHT
LIGHT
SIGN
LIGHT
960
LIGHT
SIGN
LIGHT
LIGHT
LIGHT
3-2-06-C
EL. 960.85
LIGHT
0°21'
3½°
50
100
ALE IN FEET
DATE
NO.
DESCRIPTION
BY
REVISIONS
CONTOUR
L. ROBE
Cons
EBENSB



NATIONAL GUARD BUREAU
WASHINGTON D. C.

AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

[redacted]

CONTOUR INTERVAL: 1' & 2' DATE: AUG., 19[redacted]

TION	BY

L. ROBERT KIMBALL & ASSOCIATES
Consulting Engineers & Architects
EBENSBURG, PA. HUNTINGTON, W.Va.

TAB
F-3

determined. The occurrence of groundwater at WVBMW01 is discussed further in Section 6.1. It is likely that groundwater flow direction tends to follow topography in unconsolidated deposits but is dominantly controlled by fracture orientation in bedrock.

Precipitation is the major source of aquifer recharge. Groundwater flows from the hilltops to the valleys via horizontal and vertical tensile fractures. Shallow groundwater in fill or perched zones discharges to small springs. Deeper groundwater eventually reaches bedding plane separations in the valley floor (Mathes and Ward, 1990), from which it may discharge to Elk Creek or otherwise move downgradient. The flow velocity is controlled by the hydraulic gradient and permeability of the strata.

Within the Elk River Basin, there are four bedrock aquifers, the first two of which are significant relative to the Site Investigation. The four aquifers are listed below:

1. Upper Pennsylvanian rocks of the Conemaugh and Monongahela Formations
2. Allegheny Group, including the Charleston Sandstone
3. Pottsville Group
4. Mauch Chunk Group

The first bedrock aquifer expected to be encountered beneath the Base is the Conemaugh Formation. Well yield depends on the rock type, and size and concentration of fractures. Yields reportedly range from 1 to 66 gallons per minute (gpm) (Doll et al. 1960), which generally are sufficient for domestic and some industrial use. Due to the interbedding of sandstones and shales, small yields are often obtained from perched shallow groundwater beneath the Base, as observed at background location WVBMW01. The PA reports that shallow groundwater has been encountered beneath the airport and Base at depths as shallow as 5 to 10 feet below the ground surface in the fill and weathered Conemaugh bedrock.

The Allegheny Group contains the aquifer below the Conemaugh Formation. The Allegheny aquifer consists of massive sandstones and local conglomeratic beds. The Allegheny aquifer is used as a source of water for industrial facilities because of potential high yields of up to

600 gpm, with an average of 125 gpm (Doll et al. 1960). The Allegheny Group is 300 or more feet below the Base's elevation.

3.5 METEOROLOGY

The climate in Kanawha county is temperate and characterized by cool winters and moderately warm summers. The average winter temperature is 36 degrees Fahrenheit (°F) and the average summer temperature is 73°F. The average annual temperature is 57°F. Precipitation averages 46 inches per year with an average snowfall of 30 inches per winter. Net precipitation averages 13 inches per year. The maximum yearly rainfall intensity average based on a 1-year frequency, 24-hour rainfall event is 2.5 inches. The prevailing winds are typically out of the southwest at an average of 6 miles per hour.

SECTION FOUR
FIELD PROGRAM

The primary objectives of the SI were to determine whether past site activities have resulted in contamination of soil, groundwater, surface water, and sediments; to assess the potential impacts of contamination on human health and the environment; and to recommend the course of further IRP activities. A two-step approach consisting of field screening and confirmation and delineation sampling was implemented to meet those objectives. Except as noted in Section 4.5, SI activities were performed in accordance with the Site Investigation Work Plan and Sampling and Analysis Plan (September 1994) and amendments issued in December 1994. The specific elements of the field program were reviewed and approved by the ANGRC and HAZWRAP before initiating the field program. The results of the field screening activities were used to modify sample locations during the confirmation and delineation activities.

The following subsections describe the activities performed during the field screening and confirmation and delineation activities, the investigation-derived waste management procedures, deviations from the work plan, and site surveys. The field and laboratory procedures and methodology followed are presented in **Appendix A**. A summary of SI field activities is shown in **Table 4-1.**

4.1 FIELD SCREENING ACTIVITIES

Field screening activities commenced with mobilization on October 2, 1994. The initial field screening activities consisted of a geophysical survey and a SOV survey. Following a review of data obtained during this initial activity, field screening concluded in December 1994 with the hand auger soil borings, and surface water/sediment sampling. Data obtained from the screening activities were used to indicate possible contamination at a site and assess the number and locations for confirmation and delineation sampling activities.

TABLE 4-1
SUMMARY OF SITE INVESTIGATION FIELD ACTIVITIES
130TH AIRLIFT GROUP, WEST VIRGINIA AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

	FIELD ACTIVITIES			MEDIA ANALYSIS	
LOCATION	SCREENING	CONFIRMATION & DELINEATION	Materials of Concern	Groundwater and Surface Water	Soil and Sediment
Site 1 - Waste Disposal Site No. 1	- EM geophysical survey - GPR geophysical survey - SOV survey - 7 hand-augered soil borings at base of landfill - 2 sediment samples - 1 surface water sample - 3 hand-augered soil borings into alluvial fan	- 2 hand-augered borings in landfill - Resample Phase I surface water sample location	- gasoline - metals - unknowns	- VOCs - SVOCs - PP metals	- VOCs - SVOCs - PP metals
Site 2 - Waste Disposal Site No. 2	- EM geophysical survey - GPR geophysical survey - surface water and sediment samples (4 each medium) - 8 hand augered soil borings	- 4 soil borings - 2 surface water samples (1 from each paved channel)	- solvents - waste oils - metals - unknowns	- VOCs- SVOCs - PP metals - PCBs	- VOCs - SVOCs - PP metals - PCBs - TCLP [1]
Site 3 - Former Fire Training Area	- SVOC survey - 3 hand-augered soil borings	- 3 soil borings	- gasoline - JP-4 - solvents - waste oils	- VOCs - SVOCs - PP metals - PCBs	- VOCs - SVOCs - PP metals - PCBs - TCLP [1]
Site 4 - Past Chemical Disposal at Engine Test Stand	- SOV survey	- 3 soil borings	- solvents	-NA	- VOCs - SVOCs - TCLP [1]
Site 5 - Liquid Disposal Site	- SOV survey	- 5 soil borings	- gasoline - waste oils - unknowns	- VOCs - SVOCs - PP metals - PCBs	- VOCs - SVOCs - PP metals - PCBs - TCLP [1]
Background	NA	- 3 soil borings - 1 monitoring well [2] (2 groundwater samples) [3] - 1 slug test	- NA	- VOCs - SVOCs - PP metals [4] - PCBs	- VOCs - SVOCs - PP metals - PCBs

[1] For disposal decision on SI-derived waste.
[2] The monitoring well was constructed in a previously installed soil boring.
[3] Two rounds of sampling were conducted, the second one approximately 4 weeks after the first.
[4] Both filtered and unfiltered groundwater samples were analyzed.

4.1.1 Geophysical Survey

Electromagnetic (EM) and ground-penetrating radar (GPR) geophysical surveys were performed as the initial field screening activity at Sites 1, 2, and 3 by Pyramid Environmental, Incorporated. The surveys were performed on an orthogonal grid system with a grid node spacing of 10 feet. The grids were oriented north-south with grid line designations increasing both northward and eastward. EM data was obtained as discrete readings taken at grid nodes. GPR data was obtained as continuous traverses parallel or diagonal to the grid axes, based on EM anomaly orientation.

The EM survey was performed first to delineate any areas warranting the increased study precision and time of the GPR. The EM unit used was a Geonics EM-31 non-contacting ground resistivity unit with a fixed transmitter-receiver coil spacing of 10 feet. Readings were logged in the conductivity and in-phase (metal detection) modes at each grid node with parallel and perpendicular orientations of the coils to the north-south grid line. The instrument used for the GPR survey was a GSSI SIR-3 ground penetrating radar recording system with a 300 megahertz (MHz) antenna. The transmitting and receiving units were mounted on a single wheeled unit which was manually pulled along the traverse line. Data was transmitted to a thermal paper recorder for analysis. A summary of the geophysical survey findings at each site is presented in Section 6.0. The geophysical survey report provided by Pyramid Environmental, Inc. is presented as **Appendix B.**

4.1.2 Soil Organic Vapor Survey

The SOV survey was performed at Sites 1, 3, 4, and 5 by Tracer Research Corporation. At Sites 1 and 3, the SOV survey locations were selected based on the results of the geophysical survey. At Sites 4 and 5, the survey points were placed for representative coverage. At each site, one sample location was profiled at 1-foot intervals to establish a target depth for the remaining locations.

A total of 65 samples were analyzed from 49 locations. Samples were collected by driving

stainless steel tubes into the ground to a target depth. Soil gas was pulled into the tube by fitting a vacuum pump onto the end of the probe. Sample volumes up to 10 milliliters were obtained by inserting a cleaned glass syringe into a silicone rubber segment of the vacuum line attachment. Each sample was immediately analyzed by a Hewlett Packard 5890 Series II gas chromatograph located in the probe van. Samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), total volatile hydrocarbons, and select chlorinated hydrocarbons. A summary of the SOV survey findings for each site is presented in Section 6.0. The SOV survey report provided by Tracer Research Corporation is presented as **Appendix C.**

4.1.3 Hand Auger Borings

A total of 21 hand auger soil borings were performed at Sites 1, 2, and 3. Placement of the borings was based on a review of the geophysical and SOV data. A photoionization detector (PID) was used to screen the soils for qualitative VOC content.

Analytical samples were collected from the upper 2 feet of each boring and from the zone of highest PID readings. If a reading was not obtained on the PID, a representative sample was collected at boring termination. Where hand auger refusal was encountered at less than 3 feet, a single analytical sample was collected.

4.1.4 Surface Water and Sediment Sampling

Two surface water and sediment samples were collected for laboratory analyses during the screening phase from within the pond at the toe of the slope of Site 2. Additional sample sets were collected at the outfall upgradient from Site 2; and downgradient of the pond associated with Site 2.

One surface water sample and two sediment samples were collected for laboratory analyses during the screening phase at Site 1. The samples were not collected as sets, as at Site 2, due to the limited flow of water within the drainage swale and its distance from the site. The

surface water sample was taken at the highest upgradient location available. The two sediment samples were collected from the ravine within 75 feet of the Site 1 boundaries.

4.2 CONFIRMATION AND DELINEATION ACTIVITIES

Data from the screening activities were reviewed to determine confirmation and delineation sample locations based on data needs and efficiency. The purpose of the confirmation phase of sampling was to verify screening results; confirm suspected contamination; and define impact from contamination detected. The confirmation activities included the collection of soil and groundwater samples at the soil boring and monitoring well locations, respectively. Additional surface water and sediment samples were also collected. A review of the various confirmation activities is contained in this section.

4.2.1 Soil Borings

A total of 18 soil borings were drilled during confirmation activities. Soil borings were not drilled at Site 1 due to utilities, vegetation, and steep slopes. Three soil borings were drilled at Sites 3, 4, and background locations, respectively, and four soil borings were drilled at Site 2. Five soil borings were performed at Site 5.

4.2.2 Monitoring Well Installation

One soil boring, WVB-01, encountered sufficient water to allow the installation of a monitoring well. The monitoring well was set to 17 feet, 7 inches with an initial water measurement of 10 feet below ground surface. An attempt was made at Site 2 to install a monitoring well immediately downgradient of the pond on the landfill side of the stream. Dense rock was encountered at 3 feet; auger refusal occurred at 8.5 feet in dry material.

4.2.3 Hand Auger Borings

Two hand auger borings were performed at Site 1 during confirmation activities. The screening activities had detected low levels of contaminants around a suspected source area. The two additional borings were deemed necessary to further delineate the extent of the possible source area, and characterize the contaminants detected above levels of concern.

4.2.4 Surface Water Samples

Two additional surface water samples were collected at Site 2 during confirmation activities. The screening activities had detected low levels of fuel-type contaminants in surface water and sediments at the toe of the landfill. The additional samples were collected to characterize surface water prior to its entrance at the base of the landfill. The samples were collected from runoff channels coming from the petroleum, oil, and lubricants (POL) area and the airport area, respectively.

4.2.5 Aquifer Testing

A rising head slug test was performed at WVB-MW01 on June 3, 1995. The test was performed following the final well sampling under the Site Investigation. Due to rapid recovery of the water level within the well casing following slug withdrawal, the rising head slug test was electronically logged using a Hermit SE2000 Environmental Logger. Three consecutive tests were performed with data recorded at logarithmic time intervals to ensure the detection well recovery. Computer analysis of the recorded data was used to calculate the aquifer hydraulic conductivity by the Bouwer and Rice method. The rising head slug test data is presented in **Appendix D.**

4.3 SITE SURVEY

A land survey was performed following the screening and confirmation phases of the Site Investigation to verify horizontal coordinates and vertical elevations of the sampling

locations. The data were tied to the West Virginia State Plane Coordinate System by benchmarks at Yeager Airport. The survey was performed by a State of West Virginia-licensed surveyor, and sample locations were marked on Base maps provided by the Base Engineering Department. The survey data and locations are presented in **Appendix E.** Site plans and background sample locations are shown on **Figures 4.1 to 4.6.** These figures show the location of SOV survey points, hand auger borings, surface water/sediment samples, soil borings, and background borings and well.

4.4 INVESTIGATION-DERIVED WASTES

Soil cuttings generated from soil borings, monitoring well installation and decontamination activities were containerized in drums, with the exception of cuttings from background locations. Cuttings from background borings and the background well were not containerized, but instead were spread on the ground. Drummed waste soils were sampled by site and analyzed for TCLP-volatiles, TCLP semi-volatiles, TCLP-pesticides/PCBs, and TCLP-metals. The results of the analysis were submitted to the Base for final disposition of the material by the Base Environmental Coordinator. The results are listed in **Table 4-2.**

All solid wastes such as general trash and personal protective equipment were handled and disposed of as a "non-hazardous" routine Base waste. However, air monitoring scans for VOCs were performed on all solid wastes using a PID or other appropriate detection equipment.

The decontamination area was designated as the Motor Pool wash rack by the Base Environmental Coordinator. Wash and rinse water generated on-site during decontamination procedures of drilling and sampling equipment were contained and transferred to the wash rack for disposal. The wash rack facility drained to a sump connected with the Base sanitary sewer system through an oil/water separator. The liquid waste generated from well development and purging was contained in a single drum on site. Results from groundwater samples taken during confirmation activities indicated that the material was non-hazardous and will be disposed of on-site or at the wash rack sump.

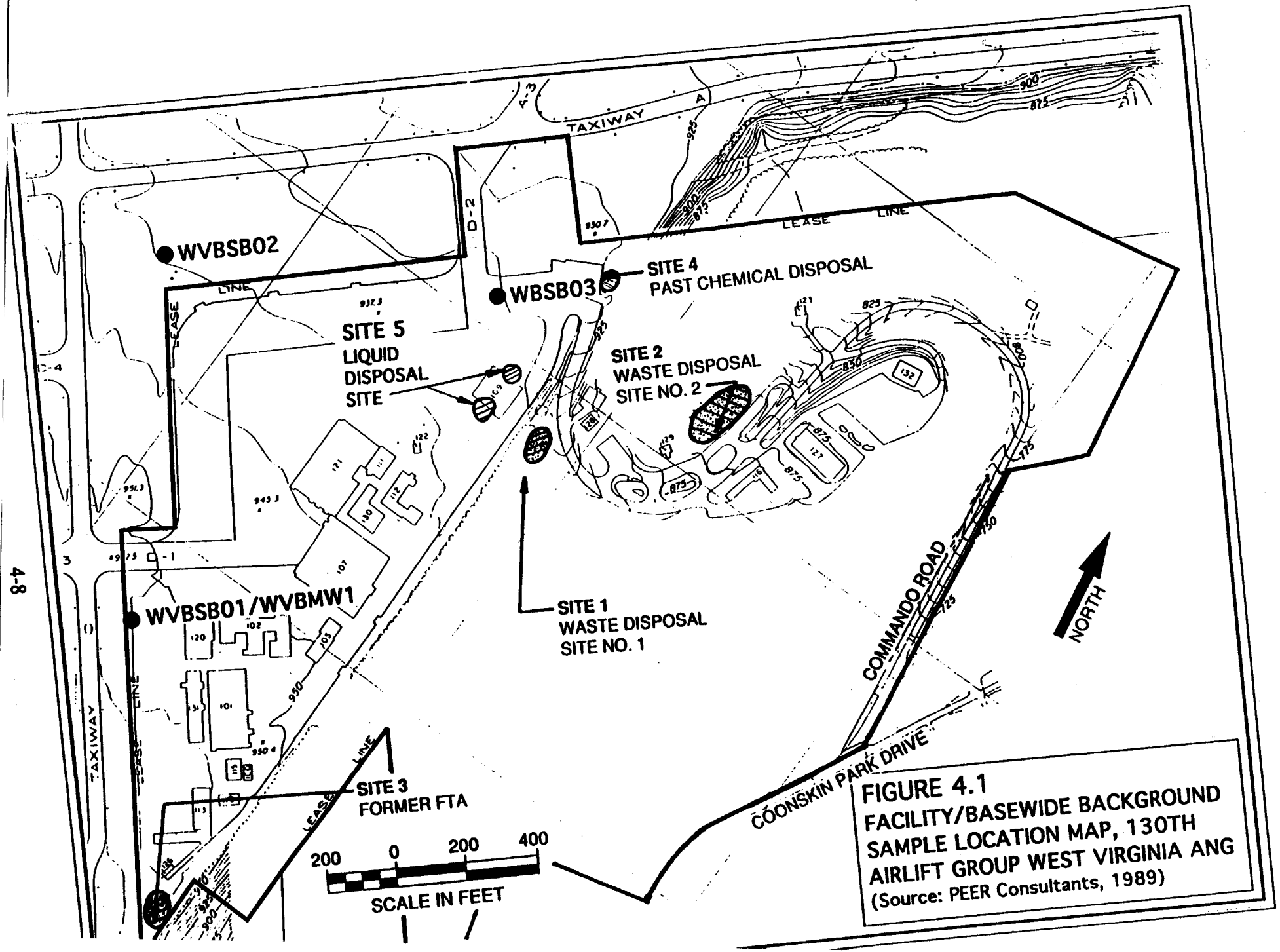
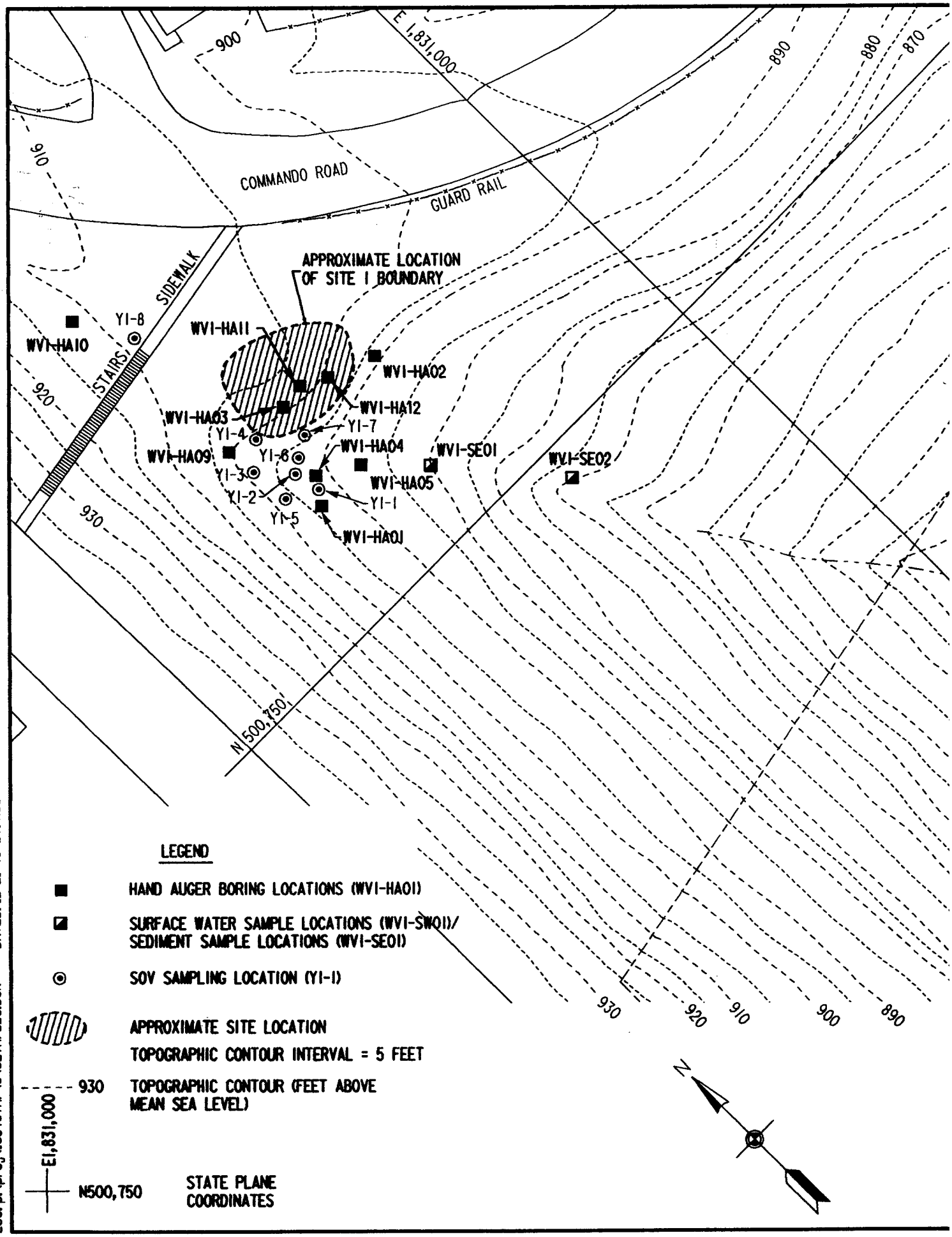


FIGURE 4.1
FACILITY/BASEWIDE BACKGROUND SAMPLE LOCATION MAP, 130TH AIRLIFT GROUP WEST VIRGINIA ANG
(Source: PEER Consultants, 1989)



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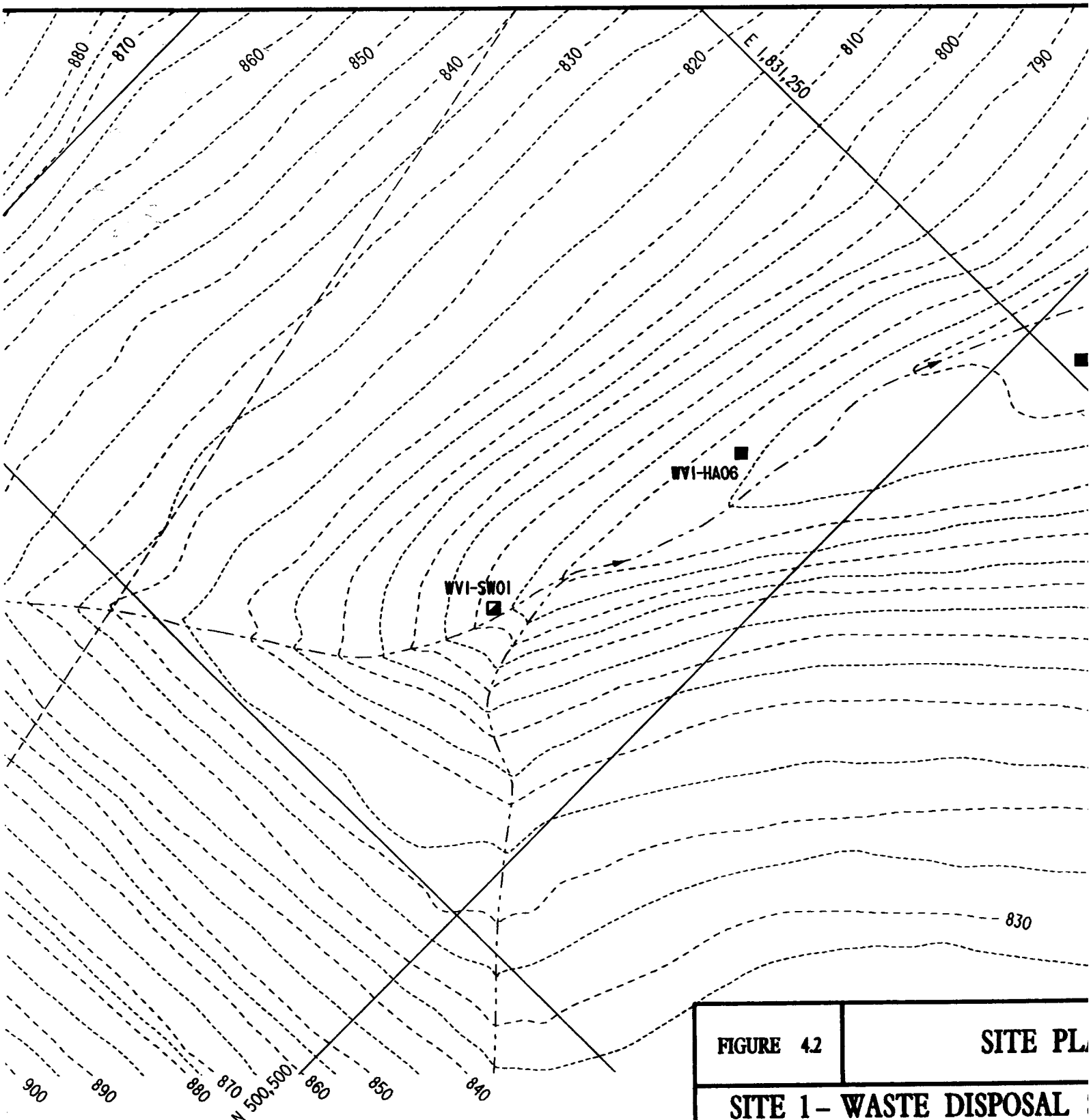


FIGURE 4.2 SITE PL

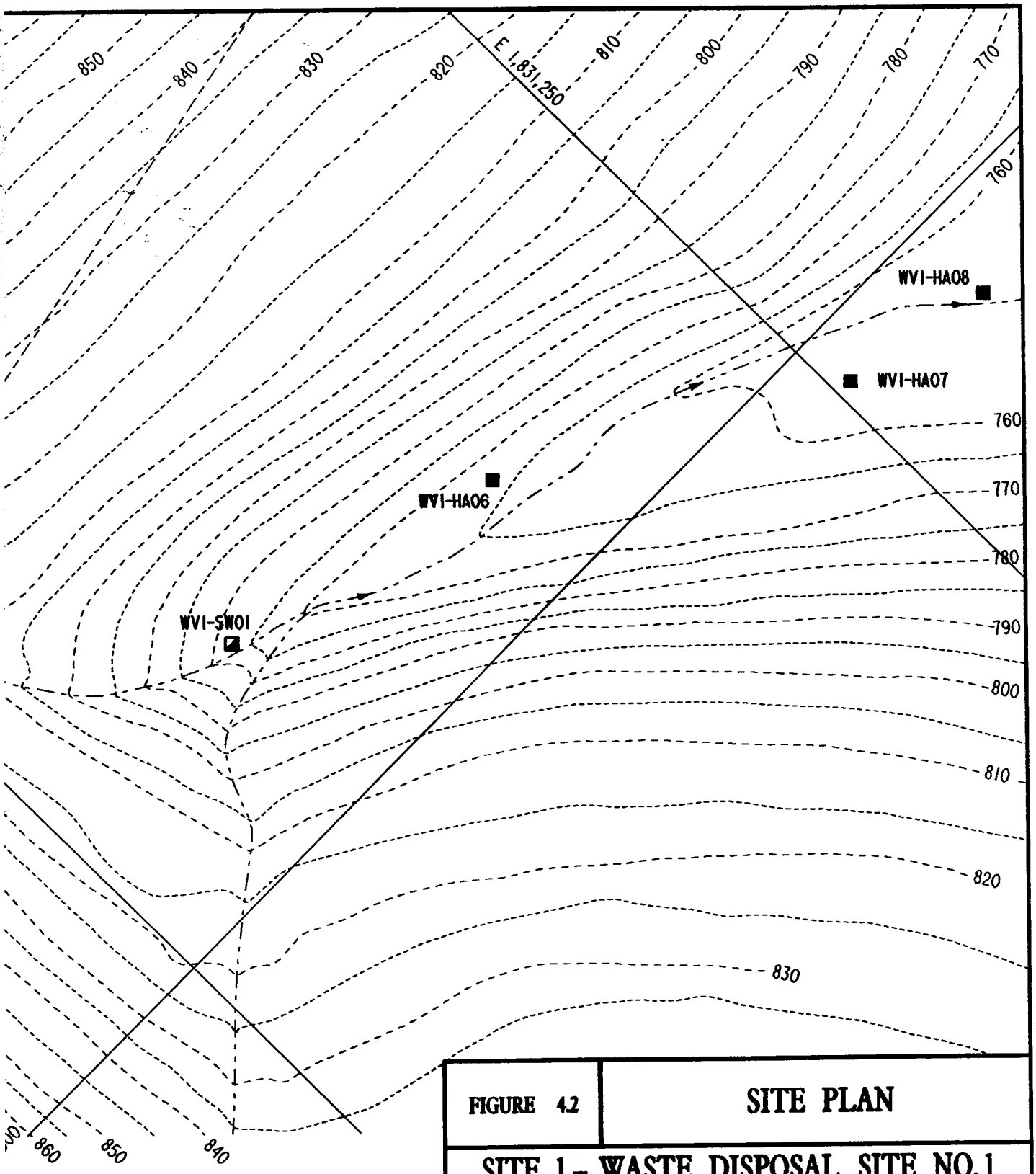
SITE 1 – WASTE DISPOSAL

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SCALE: 1" = 40'

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FIGURE 4.2 SITE PLAN

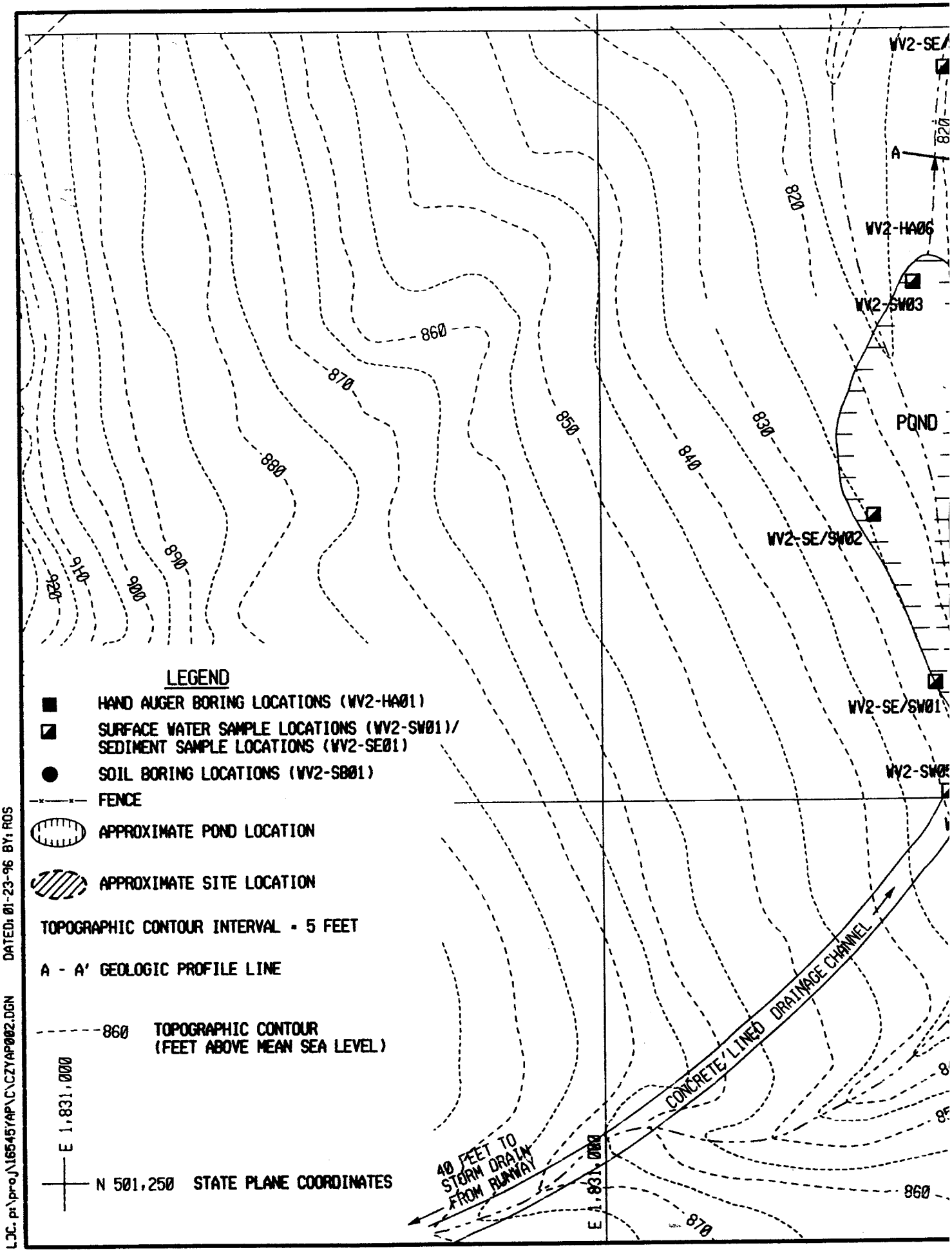
SITE 1 – WASTE DISPOSAL SITE NO.1

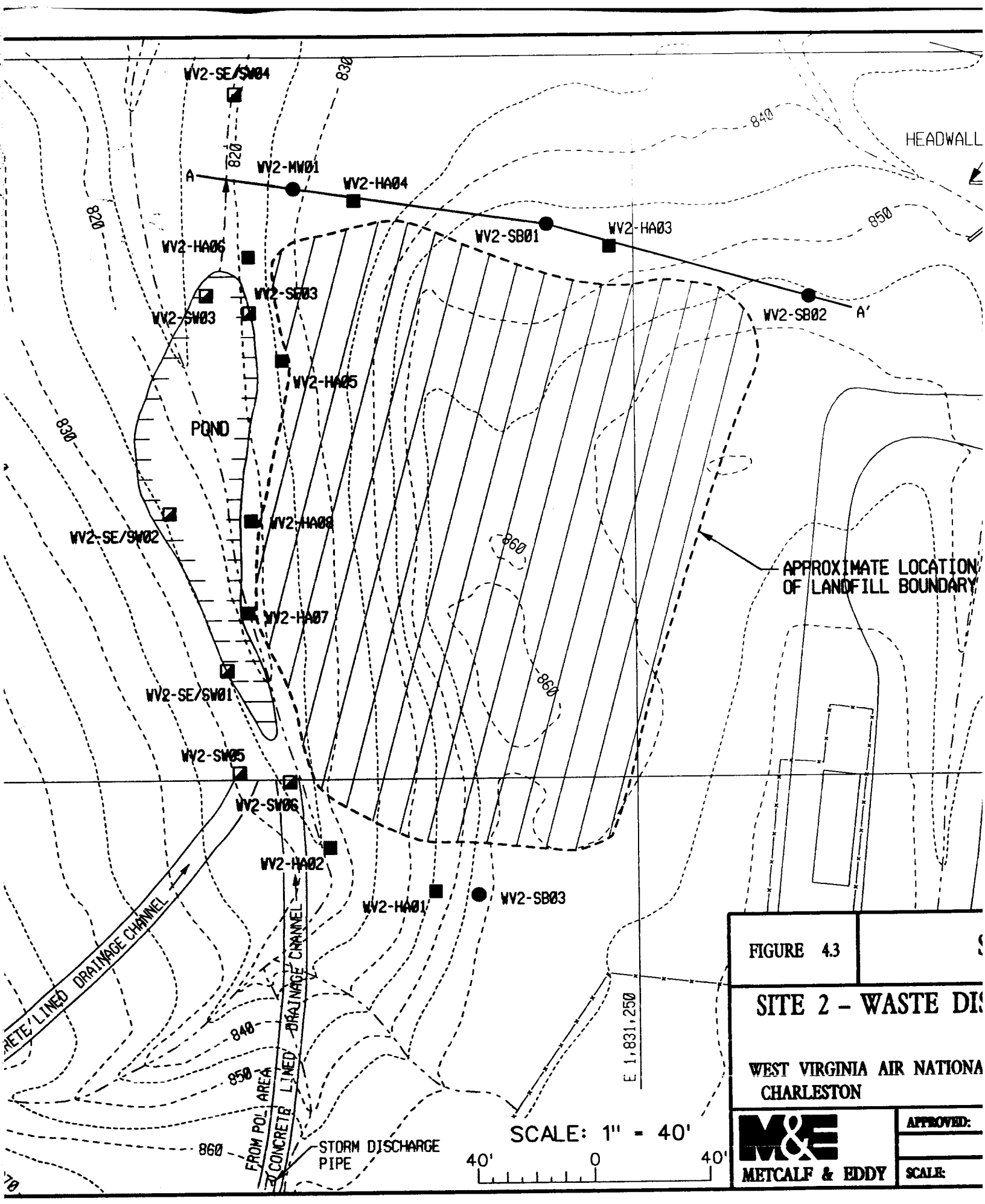
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY

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LEGEND
HAND AUGER BORING LOCATIONS (WV2-HA01)
SURFACE WATER SAMPLE LOCATIONS (WV2-SW01)/ SEDIMENT SAMPLE LOCATIONS (WV2-SE01)
SOIL BORING LOCATIONS (WV2-SB01)
FENCE
APPROXIMATE POND LOCATION
APPROXIMATE SITE LOCATION
TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
A - A' GEOLOGIC PROFILE LINE
860 TOPOGRAPHIC CONTOUR (FEET ABOVE MEAN SEA LEVEL)
E 1,831,000
N 501,250 STATE PLANE COORDINATES
WV2-SE/
WV2-HA06
WV2-SW03
WV2-SE/SW02
WV2-SE/SW01
WV2-SW0
POND
A
A'
820
830
840
850
860
870
880
890
900
910
920
CONCRETE LINED DRAINAGE CHANNEL
40 FEET TO STORM DRAIN FROM RUNWAY
E 1,831,000
DATED: 01-23-96 BY: ROS
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WV2-SE/SW04
830
820
840
HEADWALL
A
WV2-MW01
WV2-HA04
820
WV2-SB01
WV2-HA03
850
WV2-HA06
WV2-SE03
WV2-SW03
WV2-SB02
A'
WV2-HA05
POND
830
WV2-SE/SW02
WV2-HA08
860
APPROXIMATE LOCATION
OF LANDFILL BOUNDARY
WV2-HA07
860
WV2-SE/SW01
WV2-SW05
WV2-SW06
WV2-HA02
WV2-HA01
WV2-SB03
E 1,831,250
CRETE LINED DRAINAGE CHANNEL
840
850
FROM POL AREA
CONCRETE LINED DRAINAGE CHANNEL
860
STORM DISCHARGE
PIPE
SCALE: 1" = 40'
40'
0
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FIGURE 4.3
SITE 2 - WASTE DIS
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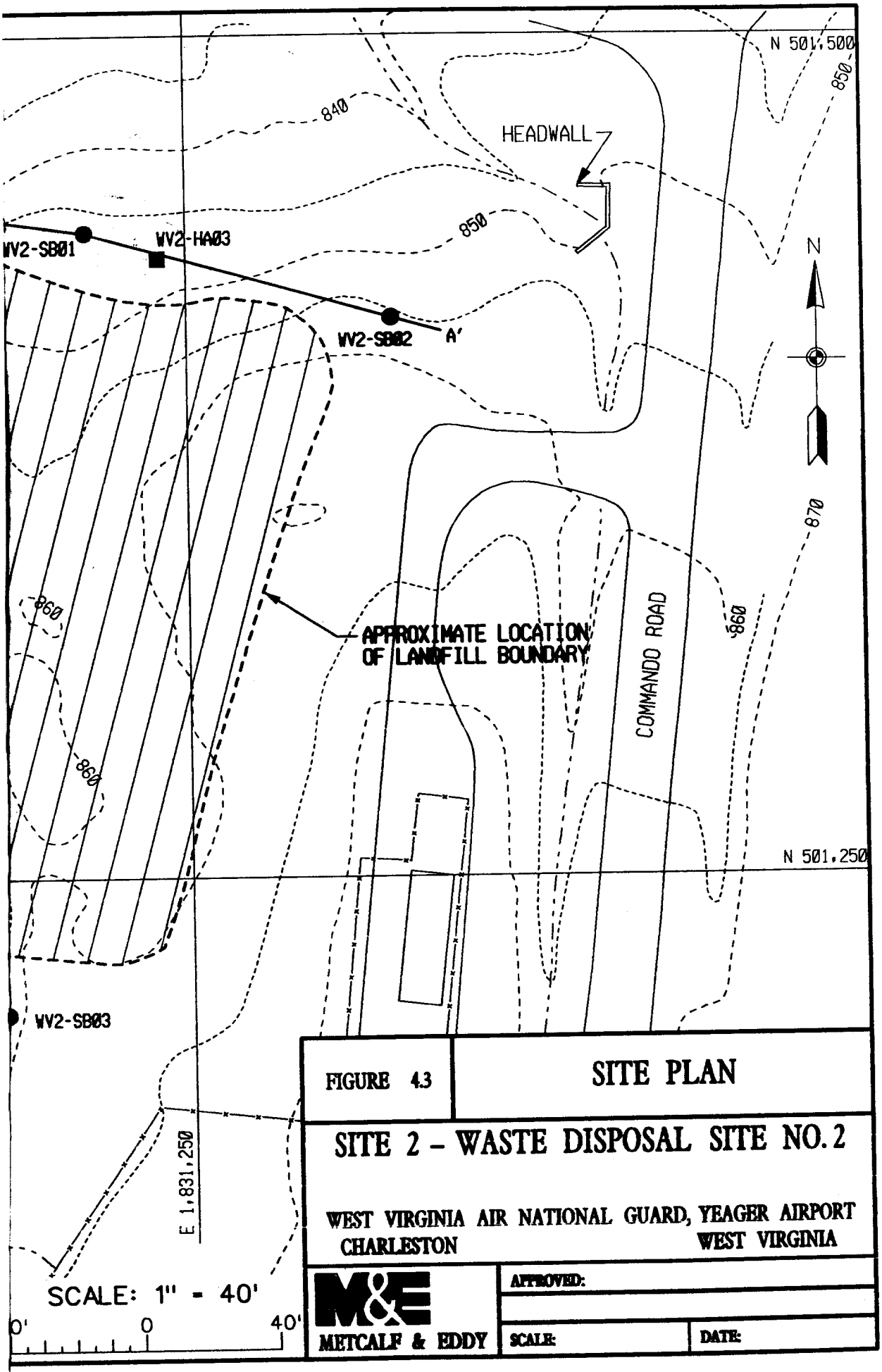


FIGURE 4.3 SITE PLAN

SITE 2 – WASTE DISPOSAL SITE NO. 2

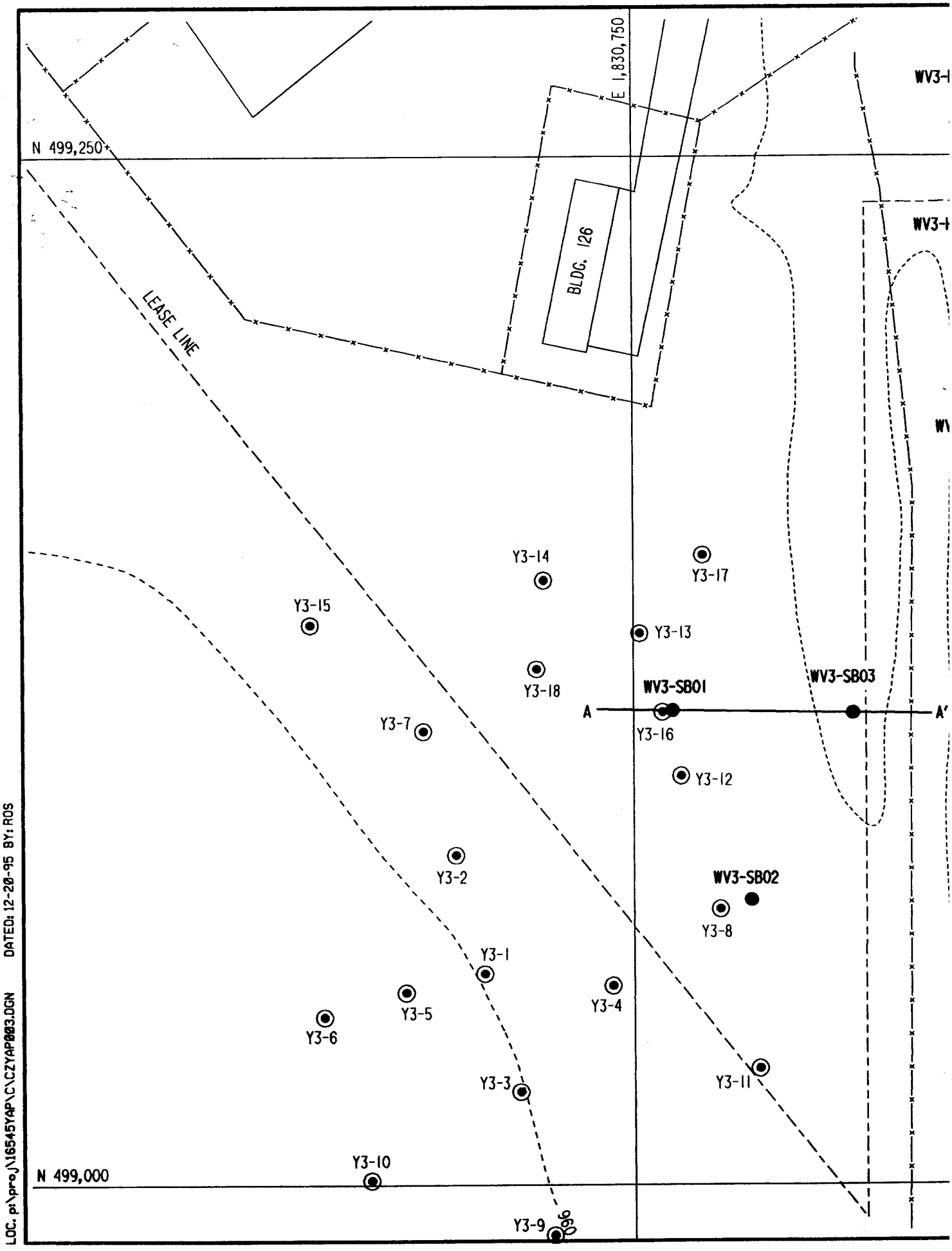
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY

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N 499,250
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LEASE LINE
Y3-1
Y3-2
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Y3-5
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Y3-10
Y3-11
Y3-12
Y3-13
Y3-14
Y3-15
Y3-16
Y3-17
Y3-18
WV3-SB01
WV3-SB02
WV3-SB03
A
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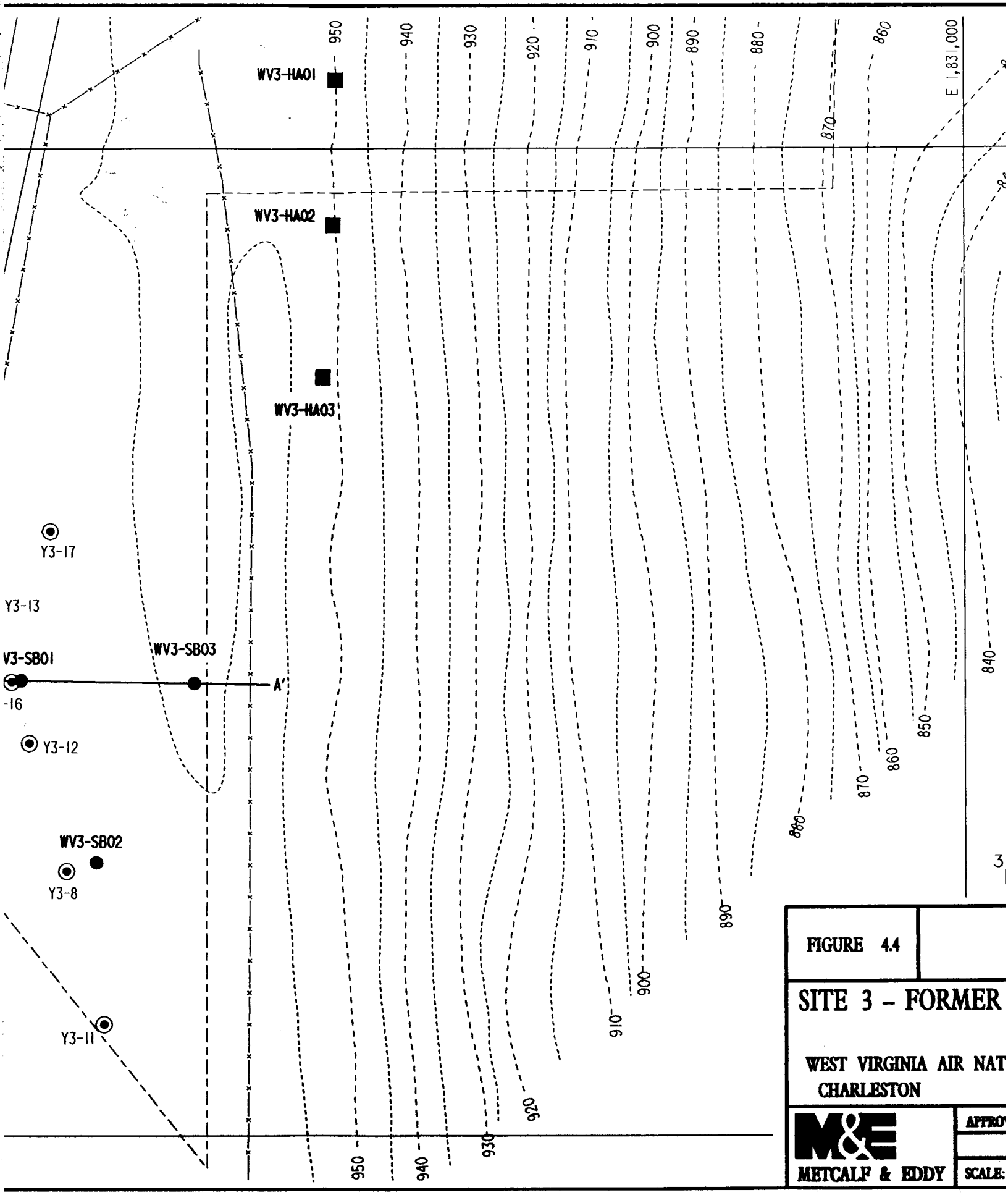


FIGURE 4.4

SITE 3 – FORMER

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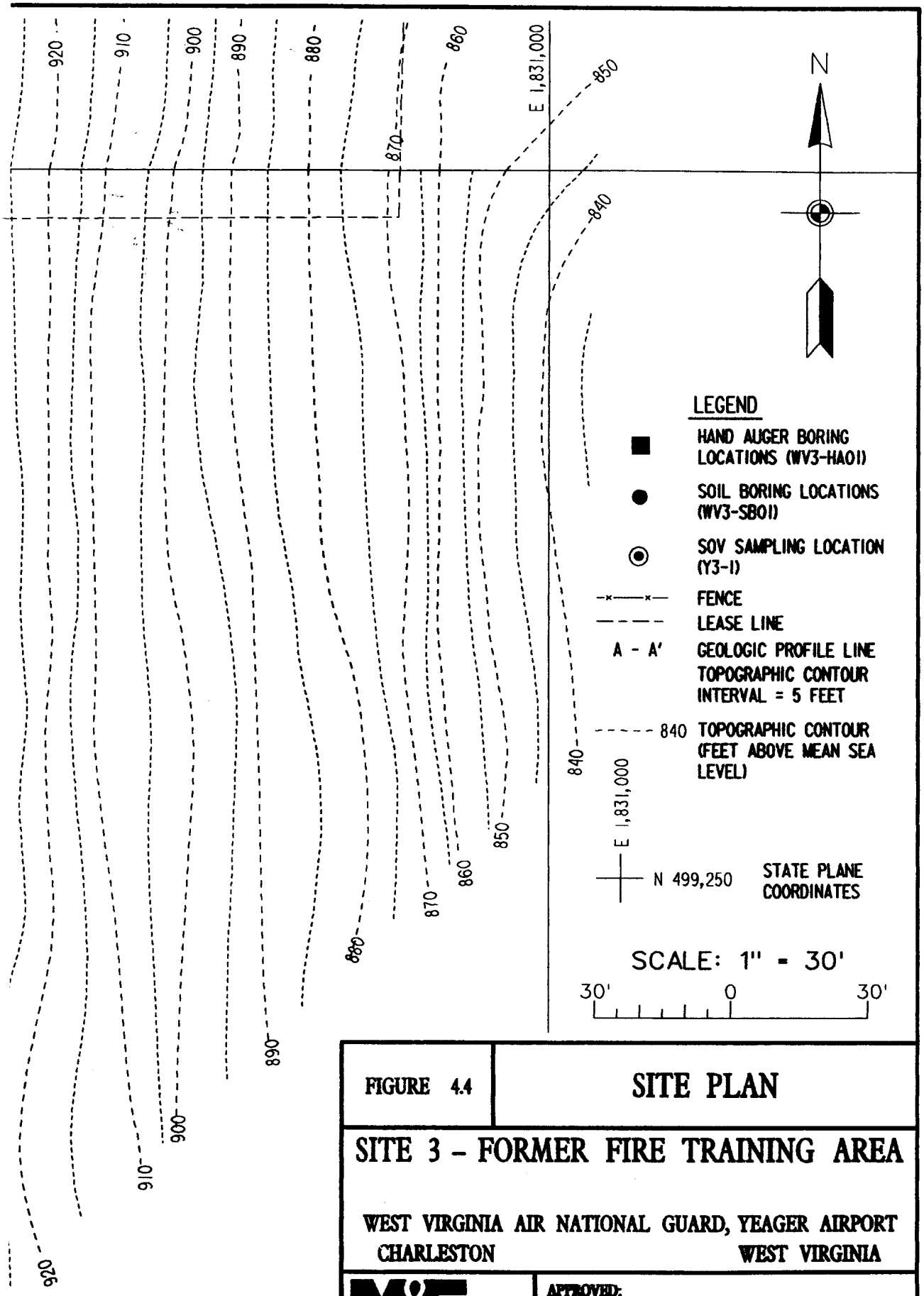


FIGURE 4.4 — SITE PLAN

SITE 3 – FORMER FIRE TRAINING AREA

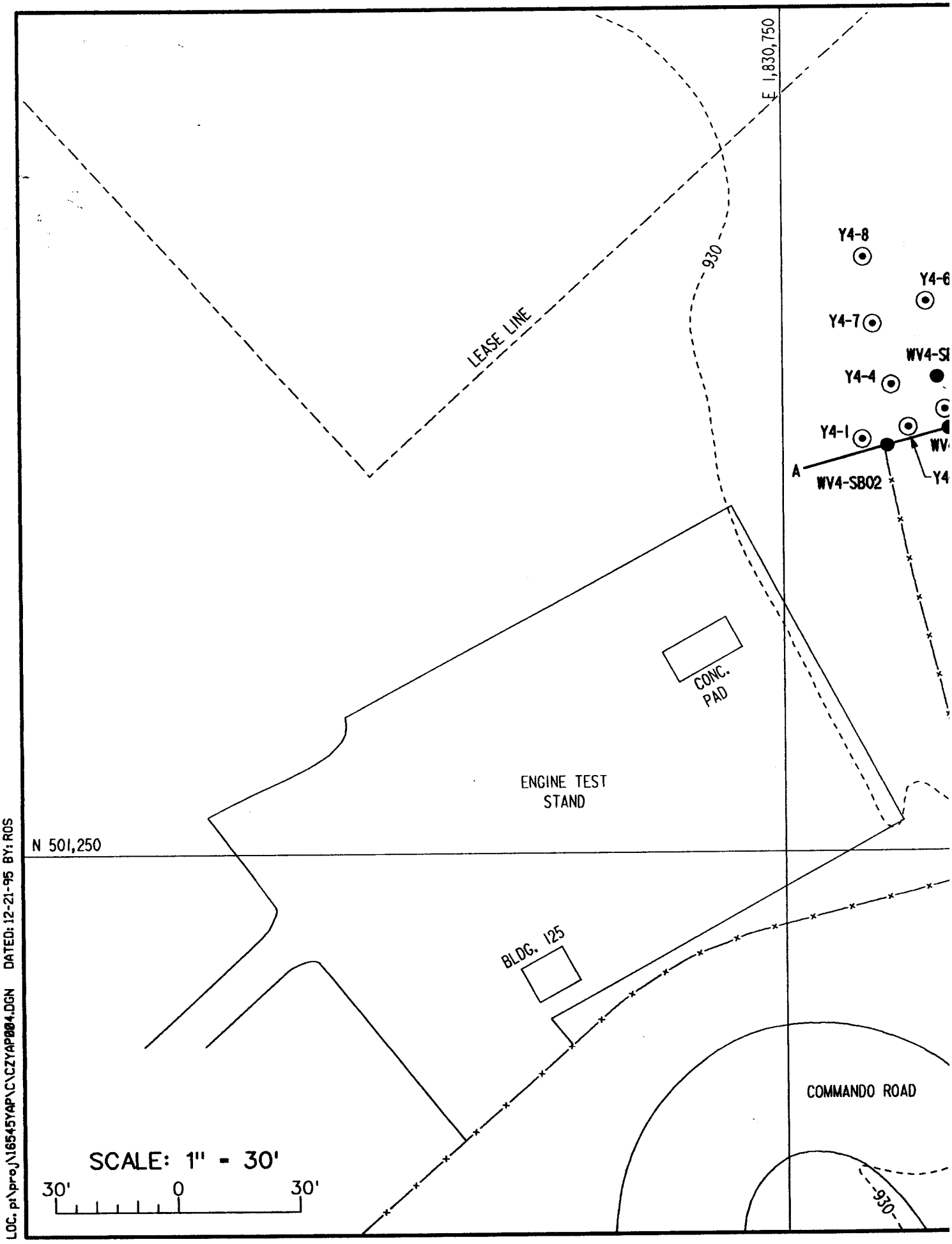
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY

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E 1,830,750
930
LEASE LINE
Y4-8
Y4-6
Y4-7
WV4-SB
Y4-4
Y4-1
A
WV4-SB02
Y4
CONC. PAD
ENGINE TEST STAND
N 501,250
BLDG. 125
COMMANDO ROAD
930
SCALE: 1" = 30'
30' 0 30'
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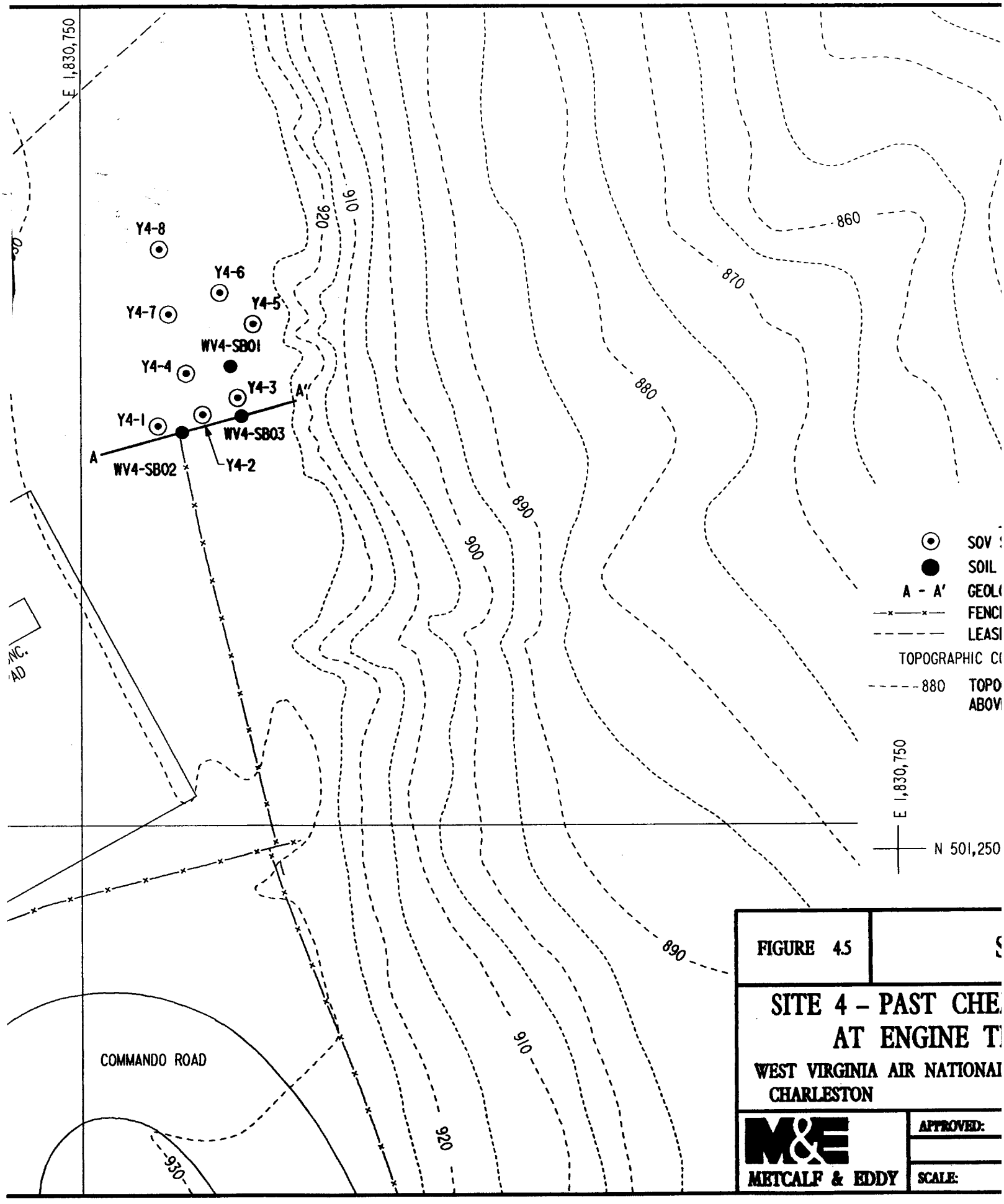


FIGURE 4.5

SITE 4 – PAST CHE
AT ENGINE TE

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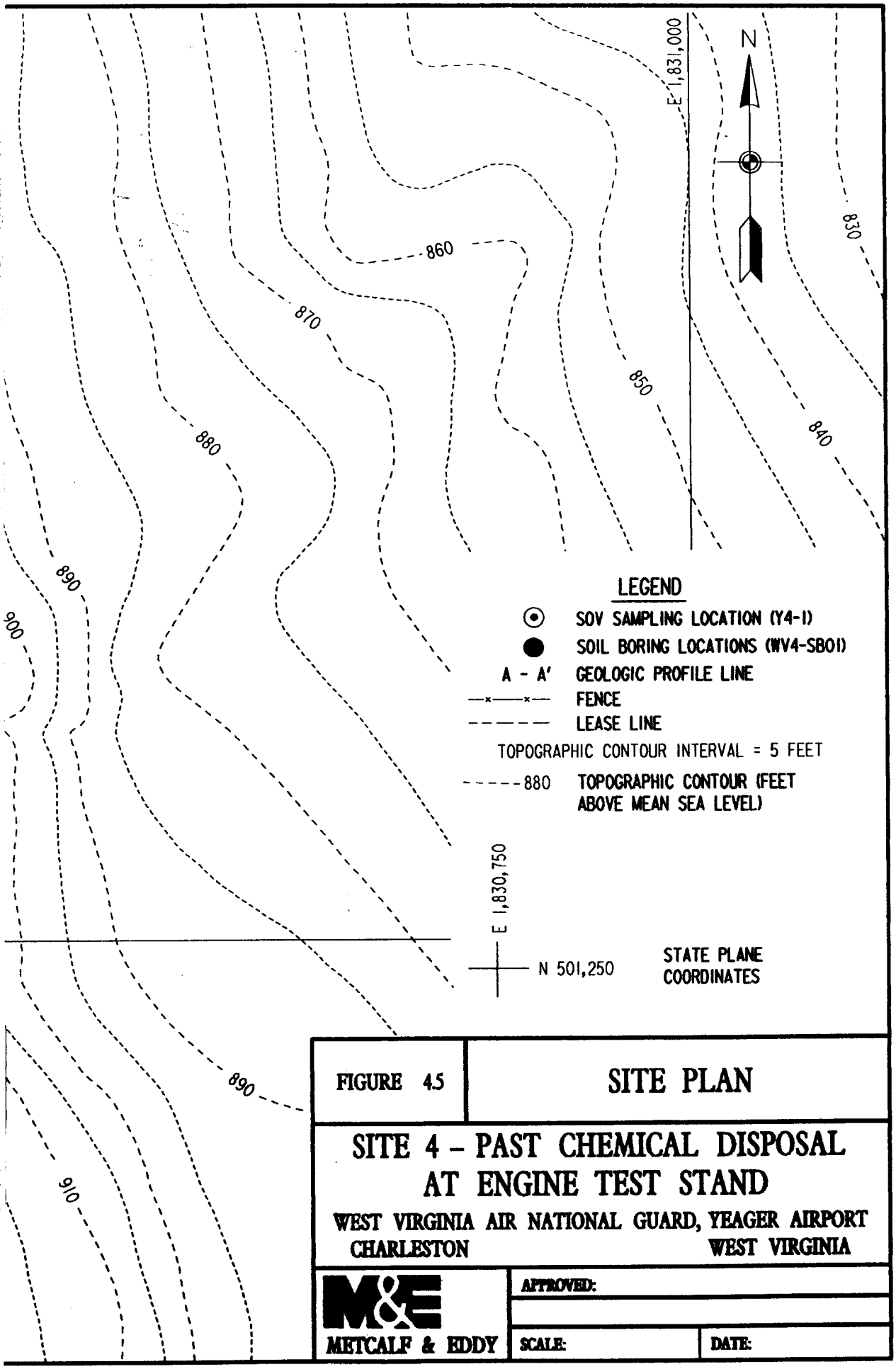


FIGURE 4.5

SITE PLAN

SITE 4 – PAST CHEMICAL DISPOSAL AT ENGINE TEST STAND

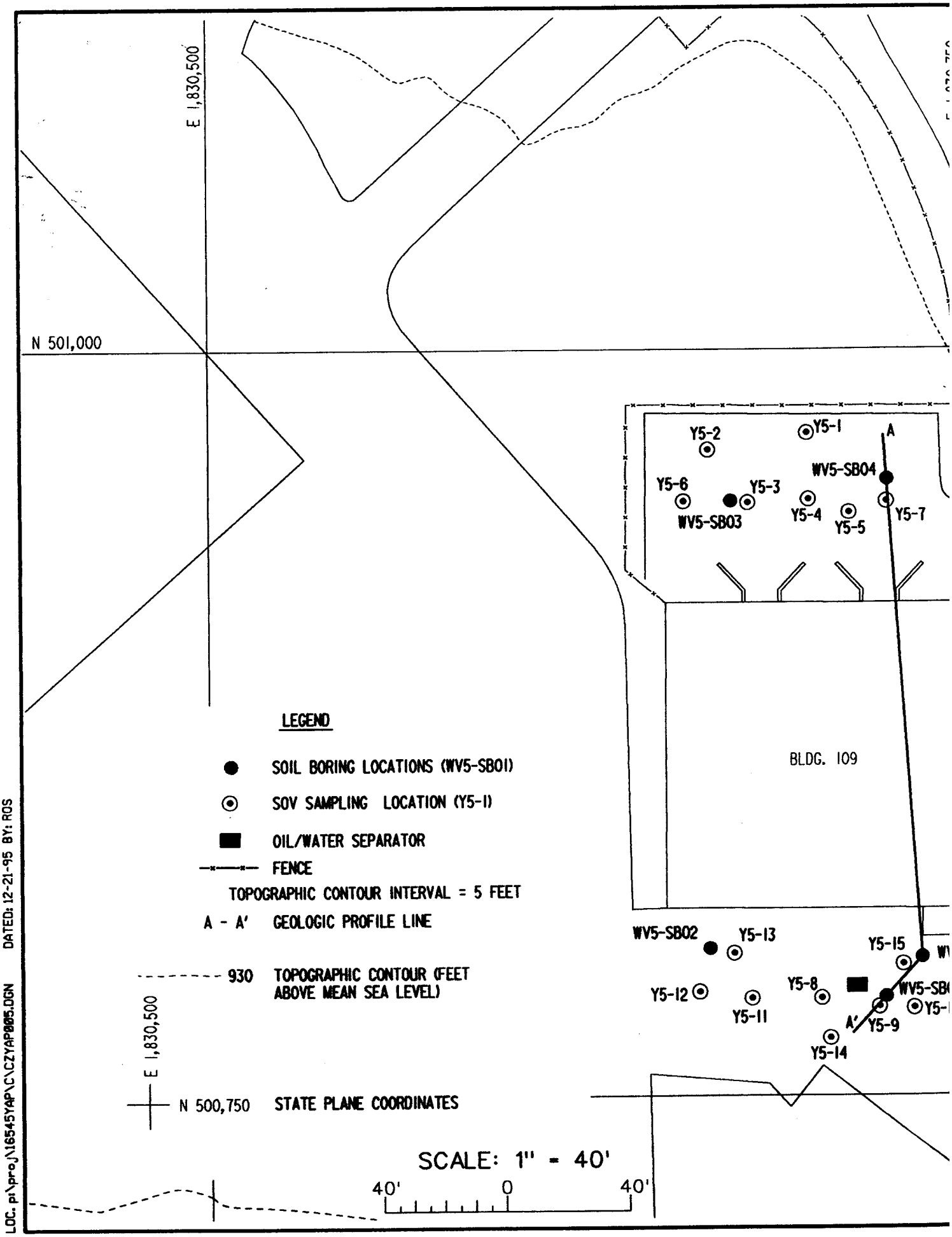
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

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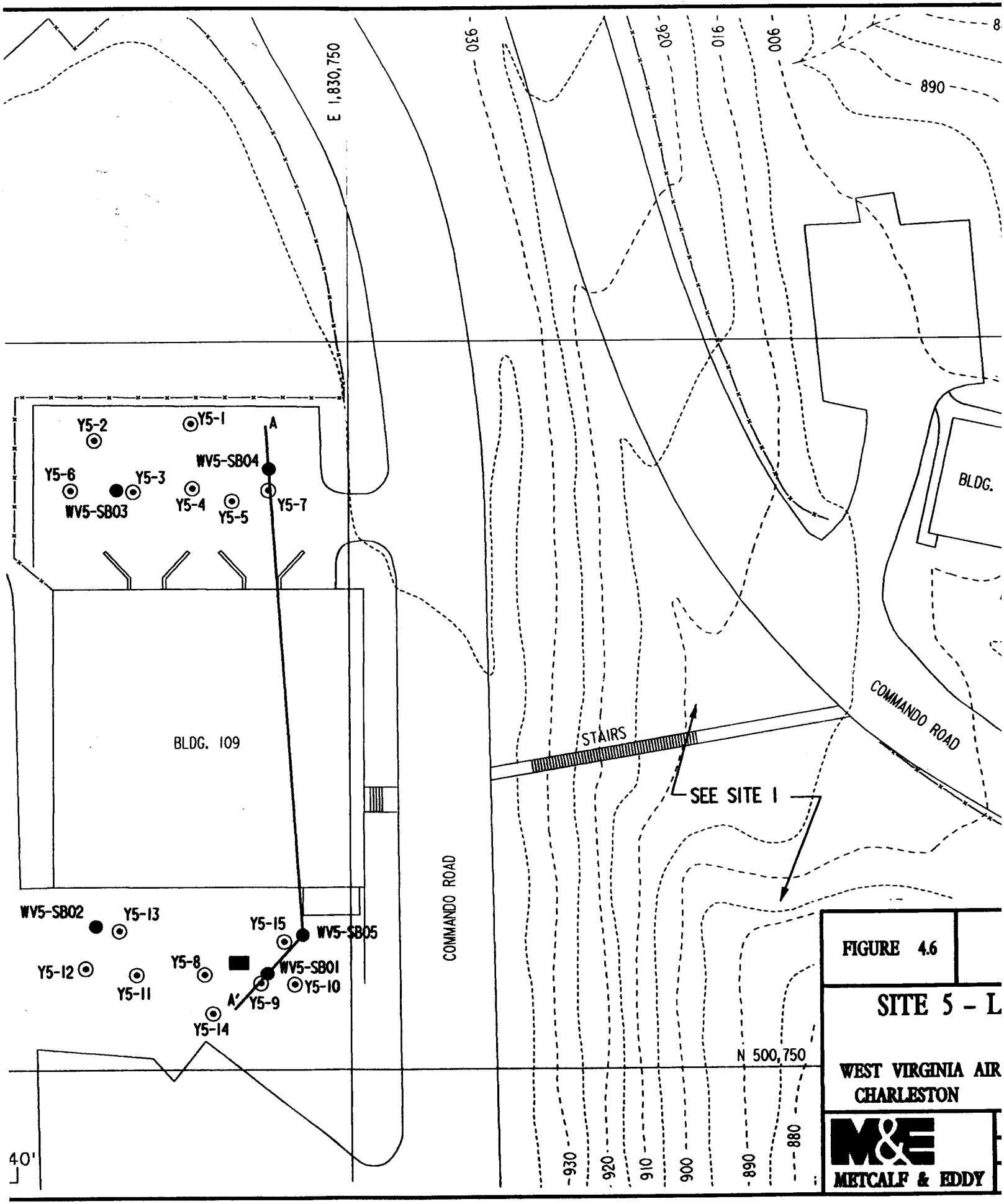


FIGURE 4.6

SITE 5 - L

WEST VIRGINIA AIR
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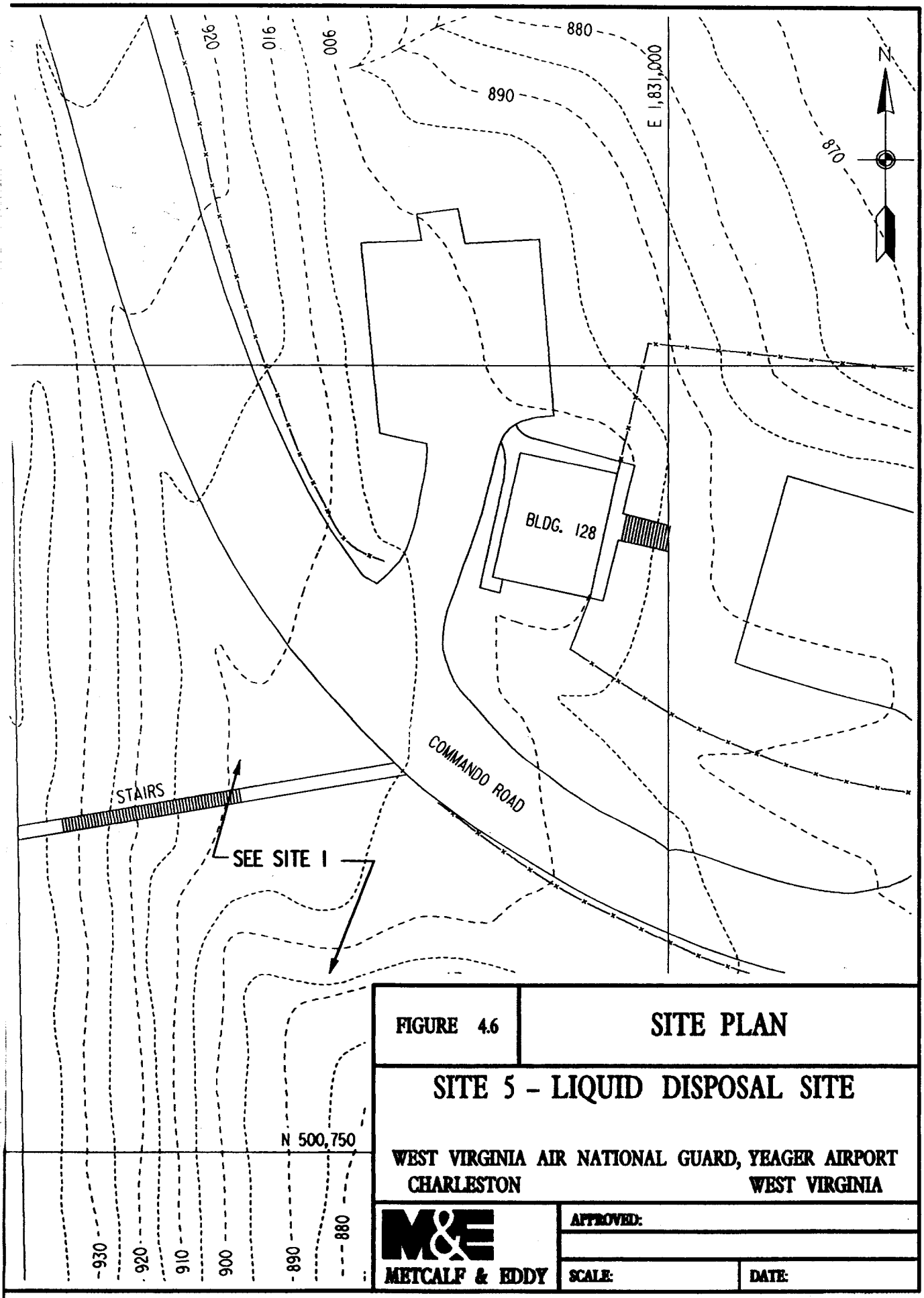


FIGURE 4.6	SITE PLAN

SITE 5 - LIQUID DISPOSAL SITE

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY	APPROVED:	
	SCALE:	DATE:

TABLE 4-2
WV AIR NATIONAL GUARD - YEAGER AIRPORT
SUMMARY OF TCLP RESULTS FOR SOIL CUTTINGS AND WASTEWATER

Sample ID **Sample Date** **Units ***		WV2-SC01 4/27/95 mg/L	WV3-SC01 4/26/95 mg/L	WV4-SC01 4/26/95 mg/L	WV5-SC01 4/27/95 mg/L	WVB-MW01 4/27/95 mg/L	WVB-MW01 6/2/95 mg/L
Compounds Detected	**TCLP Regulatory Limit (mg/L)**						
TCLP VOLATILES Benzene	0.5	U	U	0.074B	U	U	U
TCLP SEMIVOLATILES	NA	U	U	U	U	U	U
TCLP PESTICIDES & PCBs	NA	U	U	U	U	U	U
TCLP METALS Copper Lead Zinc	 NL 5.0 NL	U	U	U	U	 0.0088 0.0086 0.0221	 0.0073 0.0088

* Units - reported concentrations for soils in mg/L of laboratory-generated leachate.
U - COMPOUND NOT DETECTED ABOVE QUANTITATION LIMITS.
NL - Not listed.
B - Compound was also detected in the method blank.

NA = Not applicable since no compounds in this category were detected.

4.5 DEVIATIONS FROM WORK PLAN

The following is a summary of deviations from activities proposed in the Site Investigation Work Plan, 130th Airlift Group, West Virginia Air National Guard, Charleston, West Virginia, September 1994. In general, the deviations were based on the absence of significant contamination in soil, and the absence of groundwater at the investigation depths specified in the Work Plan.

Location	Deviation
Site 1	Deleted three hand-augered soil borings at base of landfill. Resamples surface water discharge point in lieu of installing monitoring wells within alluvial fan. Discharge point represented groundwater seep.
Site 2	Deleted installation of monitoring wells. Groundwater was not encountered above bedrock. Test pits were not excavated within the landfill due to absence of significant contamination outside the landfill boundaries. Collected two additional surface water samples up slope of the site to characterize surface water discharge prior to its entrance on the site.
Site 3	Deleted installation of monitoring wells. Groundwater was not encountered to a depth of 30 feet. Significant contamination was not encountered.
Site 4	Deleted installation of one monitoring well. Groundwater was not encountered to a depth of 30 feet. Significant contamination was not encountered.
Site 5	Three soil borings were not drilled because significant contamination was not encountered. Monitoring wells were not installed because groundwater was not encountered above bedrock.
Background	Deleted installation of two background wells. Groundwater was not encountered above bedrock.

SECTION FIVE
DATA EVALUATION

Analytical data for this SI was evaluated based on a comparison of compounds detected to criterion background concentrations (for inorganic analytes in soil) and various regulatory criteria. The criterion background concentrations were calculated by averaging the background concentrations (for inorganics), then multiplying the average by two. Comparison to criterion background was used to identify key contaminants at each site. Criterion background concentrations have been used by the United States Environmental Protection Agency (USEPA) to determine the significance of concentrations of inorganics above the background samples and are described in supplemental guidance prepared by the EPA Region IV risk assessment staff to supplement and clarify the Risk Assessment Guidance for Superfund manual. Applicable or Relevant and Appropriate Requirements (ARARs) were developed in response to key contaminants identified during this SI.

Regulatory levels to assess contamination and/or establish action levels are outlined to evaluate the potential need for remediation. ARARs are outlined in the following sections by media type for contaminants in groundwater, surface water, sediments and soil.

5.1 CRITERIA FOR EVALUATION OF GROUNDWATER AND SURFACE WATER

Federal drinking water standards were used to evaluate groundwater data. Maximum contaminant levels (MCLs), listed in **Table 5-1** were federally promulgated in the Safe Drinking Water Act (SDWA). MCLs are enforceable standards established for drinking water purposes, and they are often applied to contaminants in the groundwater as well as surface water. MCLs are established for the protection of human health and represent the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. The MCLs are current standards from the Office of Water, USEPA Drinking Water Regulations and Health Advisories, May 1995, and 40 CFR Part 141.

TABLE 5-1

PHASE I SITE INVESTIGATION
WEST VIRGINIA AIR NATIONAL GUARD – YEAGER AIRPORT

SUMMARY OF WATER QUALITY CRITERIA FOR EVALUATION
OF GROUNDWATER AND SURFACE WATER

CONTAMINANT	DRINKING WATER MCL 1	SECONDARY DRINKING WATER STANDARD 2	WEST VIRGINIA WQS 4 ACUTE/CHRONIC
INORGANICS	**ug/L**	**ug/L**	**ug/L**
ALUMINUM	–	50–200	750/87
ANTIMONY	6	–	–/–
ARSENIC	50	–	360/190 (a)
BARIUM	2,000	–	–/–
BERYLLIUM	4	–	–/130
CADMIUM	5	–	(c)
CHROMIUM	100	–	16/11 (b)
COPPER	1,300 (*)	1,000	(c)
IRON	–	300	–/1500
LEAD	15 (*)	–	(c)
MANGANESE	–	50	–/1000
MERCURY	2	–	2.4/–
NICKEL	100	–	(c)
SELENIUM	50	–	20/–
SILVER	–	100	(c)
THALLIUM	2	–	–/–
ZINC	–	5,000	(c)
VOLATILE ORGANICS			
ACETONE	–	–	–/–
2–BUTANONE	–	–	–/–
BENZENE	5	–	–/–
1,2–DIBROMOMETHANE	–	–	–/–
BROMOFORM	100 (3)	–	–/–
BROMODICHLOROMETHANE	100 (3)	–	–/–
CARBON DISULFIDE	–	–	–/–
CHLOROFORM	100 (3)	–	–/15.7
DIBROMOCHLOROMETHANE	100 (3)	–	–/–
DICHLOROMETHANE (METHYLENE CHLORIDE)	5	–	–/–
ETHYL BENZENE	700	–	–/–
4–METHYL–2–PENTANONE	–	–	–/–
TOLUENE	1,000	–	–/–
TRIHALOMETHANES (TOTAL)	100 (3)	–	–/–
1,1,2–TRICHLOROETHANE	5	–	–/–
TRICHLOROETHENE	5	–	–/–
VINYL CHLORIDE	2	–	–/–
XYLENES (TOTAL)	10,000	–	–/–
SEMIVOLAITILE ORGANICS			
POLYCHLORINATED BIPHENYLS	0.5	–	–/0.014
bis(2–ETHYLHEXYL) PHTHALATE	6	–	–/–

Office of Water, USEPA Drinking Water Regulations and Health Advisories, May 1995 and 40 CFR PART 141.
1–MCL–MAXIMUM CONTAMINAT LEVEL maximum permissible level of a contaminant in water which is delivered to any user of a public water system; primary drinking water standards, enforceable.
(*) – An "at–the–tap" treatment standard (Treatment is required if the MCL is exceeded).
2 – Secondary Drinking Water Standard; non–enforceable aesthetics standard based on taste and odor.
3 – MCL applies to total Trihalomethanes (TTHMs) = bromodichloromethane + dibromochloromethane + bromoform + chloroform
4 – West Virginia Water Quality Standard for Category B3, Small non–fishable stream, Title 46, Series 1, (46CSR1).
(a) – Applies to trivalent arsenic
(b) – Applies to hexavalent chromium
(c) – Based on hardness

Secondary drinking water criteria are also included in Table 5-1. In general, these are non-enforceable standards based on aesthetic criteria (taste and odor) rather than protection of public health. Secondary criteria are included for reference, especially where MCLs have not been established, since MCLs normally have precedence. In evaluating surface water data, West Virginia Water Quality Standards (WVWQS) were considered in addition to MCLs. Category B3 criteria, established for small, non-fishable streams, is the applicable use designation and is based on protection of aquatic life. The acute standards listed are 1 hour averages not to be exceeded more than once every 3 years. Chronic standards are 4 day averages not to be exceeded more than once every 3 years. WVWQS were promulgated in Title 46 series 1 (46CSR1).

5.2 CRITERIA FOR EVALUATION OF SOILS AND SEDIMENTS

In general, enforceable clean-up standards or regulatory levels for contaminants in soils have not been promulgated. However, screening criteria are often used by regulatory agencies to assess contamination. Soil screening criteria may include use of 100 times the MCLs, 20 times the Toxicity Characteristics Leaching Procedure (TCLP) leachate concentrations, proposed RCRA action levels, and EPA proposed soil screening levels. Although none of these criteria are official soil standards, they have been widely used by both EPA and many regulatory agencies to assess site contamination. Comparison of ANG data to those criteria will similarly facilitate the assessment of potential site impacts.

TCLP regulatory limits are based on laboratory generated leachate. Regulatory levels in soil were developed by applying a factor of 20 times the TCLP extract limit. The resultant concentration serves as a guidance for determining if the actual soil concentration could potentially exceed regulatory levels if TCLP is applied to the soil. This is based on the dry weight of the solid extracted and the weight of the extraction fluid (1:20 ratio) as described in the TCLP, 40 CFR part 261, Appendix II.

RCRA action levels were obtained from the Proposed Rule on Corrective Action for Solid Waste Management Units (SWMU) at Hazardous Waste Management Facilities (FR 30798 Vol.55, July 27, 1990). These action levels are based on several criteria including health-

based levels and are provided as guidelines for assessing health risks of environmental pollutants.

Soil Screening Level (SSL) values are derived from proposed values from the USEPA office of Solid Waste and Emergency Response Soil Screening Guidance Document (December 1994). The listed SSL values are generic and are based on hypothetical site models that were developed for specific contaminant exposure under a residential land use scenario. The resulting SSL values are expected to be conservative and protective for most site conditions across the nation. The SSL values could eventually be used as preliminary remediation goals (PRG) or clean-up levels, however, SSLs are still under evaluation.

The SSL values represent concentrations of contaminants capable of migration from soil either to air via inhalation of fugitive dust or to groundwater. Soil and sediment results are compared to the SSL values listed for migration to groundwater utilizing a dilution attenuation factor (DAF) of 10. Table 5-2 lists the four soil screening values. If no exceedances occur, then parameters can be eliminated as possible constituents of concern. In the event an exceedance occurs, then the SSL will require closer examination of the underlying assumptions and the reasonableness for establishing cleanup goals at the Base.

TABLE 5-2

PHASE I SITE INVESTIGATION
WEST VIRGINIA AIR NATIONAL GUARD – YEAGER AIRPORT

SCREENING CRITERIA FOR THE EVALUATION OF SOILS

SOIL CONTAMINANT	SSL 1 (ppm)	SSL 2 (mg/kg)	SSL 3 (mg/kg)	SSL 4 (mg/kg)
INORGANICS				
ANTIMONY	–	30	–	0.6
ARSENIC	100	80	15	5
BARIUM	2,000	4000	32	200
BERYLLLIUM	–	0.2	180	0.4
CADMIUM	20	40	6	0.5
CHROMIUM	100	400	19 *	10
COPPER	–	–	–	130
LEAD	100	–	–	1.5
MERCURY	4.0	20	3	0.2
NICKEL	–	2000	21	10
SELENIUM	20	–	3	5
SILVER	100	200	–	–
THALLIUM	–	–	0.4	0.2
ZINC	–	–	42,000	–
VOLATILE ORGANICS				
ACETONE	–	8,000	8	–
BENZENE	10	–	0.02	0.5
CARBON DISULFIDE	–	8,000	14	–
ETHYLBENZENE	–	8,000	5	70
1,2-DICHLOROETHENES (TOTAL)	–	–	0.5	17
1,1-DICHLOROETHANE	–	–	11	–
DICHLOROMETHANE (METHYLENE CHLORIDE)	–	90	0.01 **	–
1,1,2,2-TETRACHLOROETHANE	–	40	0.001 **	–
TETRACHLOROETHYLENE	14	10	0.04	0.5
TOLUENE	–	20,000	5	100
TRICHLOROETHENE	10	60	0.02	0.5
XYLENES	–	200,000	74	1,000
SEMIVOLATILE ORGANICS				
ACENAPHTHENE	–	–	200	–
ACENAPHTHYLENE	–	–	–	–
ANTHRACENE	–	–	4,300	–
bis(2-ETHYLHEXYL)PHTHALATE	–	50	11	0.6
Di-n-BUTYLPHTHALATE	–	8,000	120	–
BENZO(a)ANTHRACENE	–	–	0.7	–
BENZO(a)PYRENE	–	–	4	0.02
BENZO(b)FLUORANTHENE	–	–	4	–
BENZO(g,h,i)PERYLENE	–	–	–	–
BENZO(k)FLUORANTHENE	–	–	4	–
2-BUTANONE	–	–	–	–
BUTYLBENZYL PHTHALATE	–	20,000	68	–
CARBAZOLE	–	–	0.2 **	–
CHRYSENE	–	–	1	–
DIBENZ(a,h)ANTHRACENE	–	–	11	–
DIBENZOFURAN	–	–	–	–
FLUORANTHENE	–	–	980	–
FLUORENE	–	–	160	–
INDENO(1,2,3-c,d)PYRENE	–	–	35	–
2-METHYLNAPHTHALENE	–	–	–	–
NAPHTHALENE	–	–	30	–
PHENANTHRENE	–	–	–	–
PHENOL	–	50,000	49	–
PYRENE	–	–	1,400	–
POLYCHLORINATED BIPHENYLS	10 (a)	0.09	–	0.05

SSL – Soil Screening Level
SSL 1 – A factor of 20 X the TCLP is applied to determine if the solid concentration could potentially exceed TCLP extract limits
a – TSCA maximum permisable concentration in surface soils for unrestricted access (mg/kg). Concentration represents a regulatory limit.
SSL 2 – Corrective Action for SWMUs at Hazardous Waste Management Facilities, Proposed Rule FR30798 VOL 55 no.145, July 27, 1990.
SSL 3 – Soil Screening Guidance, EPA/540/R-94/101, 12/94 – Based on migration from soil to groundwater and a dilution attenuation factor of 10.
* – Chromium VI and compounds
** – Concentration is below the analytical detection limits
SSL 4 – 100 x MCL
(–) SSL does not exist

SECTION SIX
INVESTIGATION RESULTS

This section presents the results gathered during the SI. Refer to Appendices F, G, and H for analytical tables, chain-of-custody documentation, and field logs.

6.1 BASEWIDE GEOLOGIC AND HYDROGEOLOGIC INVESTIGATION RESULTS

As described in Section 3.1, the former topography at the Base has been substantially modified. The hilltops have been cut away and the cut material used as fill to provide extensive flat surfaces necessary for an airport facility. The drilling program undertaken during the SI reflects that cut and fill operations have occurred. During drilling, three distinct units were encountered across the Base. These units consisted of fill, alluvium/residuum, and bedrock.

Fill material was encountered in 17 of the 18 soil borings drilled. The fill ranged from 3 to 31 feet thick, with the greatest occurrence in the southwest corner of the Base (Site 3). Alluvium/residuum was encountered in 4 of the 18 soil borings drilled. The alluvium/residuum ranged from 2 to 10 feet thick and generally was overlain by fill. The greatest occurrence of alluvium/residuum was encountered at Site 2. Bedrock was encountered in 10 of the 18 borings drilled. The bedrock consisted mainly of weathered shale or sandstone underlain by more competent sandstone. Typically, the drill rig was able to penetrate the weathered rock, up to 27 feet at one location, before encountering the more competent sandstone.

During the SI, measurable groundwater was not encountered in the overburden or weathered bedrock, with the exception of background boring WVBSB01. Groundwater was encountered in weathered shale at a depth of 8 feet below ground surface. This boring was subsequently converted to a monitoring well (WVBMW01). The occurrence of groundwater

at this location may be attributed to a perched condition. This area receives surface water runoff from the adjacent taxiways and stays wet for extended periods. A rising head slug test was performed at this location on June 3, 1995. The test followed the procedures described in **Appendix A, Section 1.2.** The test data is presented in **Appendix D.** The data indicated the hydraulic conductivity in the immediate vicinity of well WVB-MW01 to be 37.27 feet per day. This value probably reflects the highly weathered and/or fractured nature of the shale encountered at this location.

A more detailed description of the geology and hydrogeology of each site follows in the remainder of this section.

6.2 BACKGROUND SAMPLING RESULTS

This section presents the sampling approach and rationale used to determine basewide background levels and the analytical results. Background sampling was conducted for data comparison purposes.

Background soil and groundwater samples were collected by drilling soil borings and installing one groundwater monitoring well. The samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), priority pollutant metals (PPM), and polychlorinated biphenyls (PCBs).

6.2.1 Soil

Three background soil borings were drilled at the Base. Each location was selected to obtain samples representative of naturally occurring conditions. The location of the background soil borings in relation to the sites is presented on **Figure 4.1** in Section Four. The borings were screened with a photoionization detector (PID) to determine if they were free of potential volatile organic contamination. PID readings of 5 parts per million (ppm) or greater were interpreted to indicate volatile organic contamination. None of the background samples exhibited PID readings greater than 1.0 ppm. Due to the presence of shallow bedrock (3 to

5 feet below ground surface) at each background soil boring location, only one soil sample was collected from each background boring. Samples were collected at depths of 1.5 (WVB-SB0101, WVB-SB0201) and 2.0 feet (WVB-SB0301).

The results for each inorganic parameter were averaged and then multiplied by two to calculate the criterion background values. The resulting values were compared to site-specific soil samples to select key contaminants. ARARs were then developed in response to key contaminants identified. A criterion background value was not calculated for organic compounds as they are not naturally occurring. Background soil sample WVBSB0101 was not used in calculating the criterion background values. Low levels of SVOCs were detected, and consequently this sample was not considered to be representative of naturally occurring conditions. A list of background soil samples, analytical results, and calculated criterion background values is given in **Table 6-1.**

6.2.2 Groundwater

Due to the absence of groundwater in the residuum and weathered bedrock at the background locations, only background soil boring WVBSB01 was converted to a background monitoring well. Two rounds of groundwater samples were collected at this location. The constituents detected were well below their respective MCL. A list of the groundwater samples and analytical results is given in **Table 6-2.**

6.3 SITE 1 - WASTE DISPOSAL SITE NO. 1

6.3.1 Site Description

Waste Disposal Site No. 1 is approximately 120 feet south of Building 128, the Liquid Fuels Building, off Commando Road (**see Figure 2.2 in Section Two**). The site was used mainly as a garbage dump for wastes generated at the Base from about 1957 to 1970. The types of waste included paper, food waste, metal and plastic containers, and general refuse from all Base operations. Some of the containers likely contained small amounts of solvents, oils, paint.

TABLE 6-1
SUMMARY OF CONSTITUENTS DETECTED IN BACKGROUND SOIL
West Virginia Air National Guard - Background Data

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WVBSB0101 04/12/96 1.0' SOIL mg/kg	WVBSB0201 04/13/96 1.0' SOIL mg/kg	WVBSB0301* 04/13/96 2.0' SOIL mg/kg	WVBS7* 04/13/96 2.0' SOIL mg/kg
PCBS	10 (a)		U	U	U	U
VOLATILE ORGANICS						
Toluene	5 - 20,000		2 J			
SEMIVOLATILE ORGANICS				U	U	U
Anthracene	4300					
Benzo(a)anthracene	0.7		0.037 J			
Benzo(b)fluoranthene	4		0.052 J			
Benzo(k)fluoranthene	4		0.048 J			
Benzo(a)pyrene	0.02 - 4		0.037 J			
Chrysene	1		0.057 J			
Fluoranthene	980		0.089 J			
Pyrene	1400		0.075 J			
PRIORITY POLLUTANT METALS						
Antimony	0.6 - 30	NA	NA	NA	NA	NA
Arsenic	5 - 100	2.2	5.5	0.92	1.7 J	0.89 J
Beryllium	0.2 - 180	2.04	1.4 J	1.2 J	0.92 J	0.95 J
Cadmium	0.5 - 40	1.32	0.66 U	0.66 U	0.66 U	0.66 U
Chromium	100 - 400	23.8	25.9	20.2	5.1	10.4
Copper	130	68.2	22.6	30.7	32.5	39.1
Lead	1.5 - 100	17.94	12.1 J	9.7 J	9.4 J	7.8 J
Mercury	0.2 - 20	0.22	0.11 U	0.11 U	0.11 U	0.11 U
Nickel	10 - 2000	38.26	30.2	23.5	16.7	17.2
Selenium	3 - 20	NA	0.66 J	NA	NA	NA
Silver	100 - 200	NA	NA	NA	NA	NA
Thallium	0.2 - 0.4	0.88	0.44 U	0.44 U	0.44 U	0.44 U
Zinc	42,000	44.6	42.4	38	15.3	13.6

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
(a) - THE TSCA VALUE FOR UNRESTRICTED ACCESS TO SURFACE SOIL IS GIVEN SINCE THIS IS A REGULATORY LIMIT.
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

TABLE 6-2
SUMMARY OF CONSTITUENTS DETECTED IN BACKGROUND MONITORING WELL
West Virginia Air National Guard - Background Data

SAMPLE ID	MCL (1)	WVBMW01*	WVB66*	WVBMW102	WVBMW103
SAMPLE DATE		12/15/94	12/15/94	12/15/94	12/15/94
SAMPLE DEPTH		1.5'	1.5'	1.5'	1.5'
MATRIX	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
PCBS	0.5	U	U	U	U
VOLATILE ORGANICS		U	U	U	
Toluene	1000				2
SEMIVOLATILE ORGANICS		U	U	U	U
PRIORITY POLLUTANT METALS					
Copper	1300	8.8 J	9.7 J	7.3	
Lead	15	8.6 J	5.8 J		
Zinc	5000 (2)	22.1 J	24.4 J	8.8 J	6.1 J
		DMW01*	DMWB66*		
DISSOLVED P.P METALS			U		
Selenium	50				
Silver	100 (2)	3 J			

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(2) - NON-ENFORCEABLE SECONDARY DW STANDARD BASED ON AESTHETICS (TASTE & ODOR)
J - RESULT ESTIMATED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

Approximately one pick-up truck load of waste was collected and disposed of each day (5 days/week). The waste was dumped at the edge of the road shoulder and has formed into an embankment approximately 50 feet wide at the top and 50 feet high, an area of about 2,500 square feet, with a slope of approximately 45 degrees. Approximately 5 gallons of gasoline were poured on each week to burn the accumulation.

Approximately 10 percent of the garbage, consisting of metal cans, glass, etc., remained after each burn. The remaining waste was occasionally pushed and/or sprayed with high pressure water down the embankment to expand the dumping area. Cover soil was occasionally placed on the waste.

During the PA site visit, there was visual evidence of refuse disposal at the site, including glass and metal containers and fragments on the surface of the sloped embankment. Both the PA site visit and the kickoff meeting site visit revealed that the site was heavily vegetated with high trees and extensive underbrush with no evidence of vegetation stress. Runoff from Site No. 1 enters an intermittent stream channel. The stream channel follows a wooded and moderately sloping ravine across the Guard property towards Coonskin Park Drive. A storm drain intercepts the stream approximately 600 feet downstream of Site No. 1 and diverts it toward an unnamed tributary of Coonskin Branch.

6.3.2 Screening Activity Results

6.3.2.1 Geophysical Survey

EM and GPR surveys were performed as the initial field screening at Site 1. The surveys were performed on an orthogonal grid system with a grid node spacing of 10 feet. The grid, oriented north-south, was measured from the intersection of the southern side of the sidewalk and Commando Road. The grid designation increased both northward and eastward. Several sources of interference were noted in the area, including a telephone pole with steel guylines, a staircase with steel railing, a steel guard rail along the west side of Commando Road, and two steel manholes.

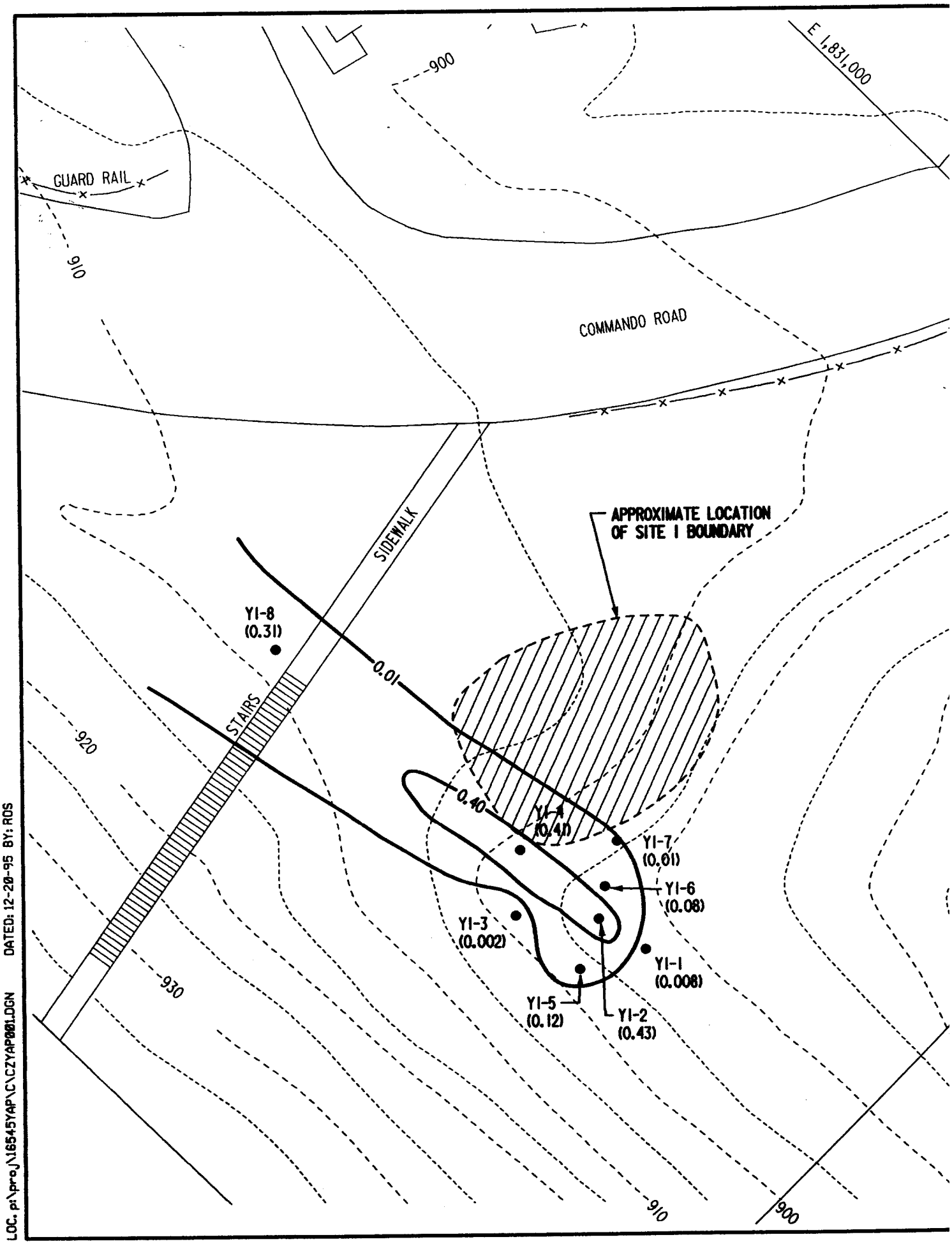
As part of the EM survey, 101 measurements were collected. Numerous EM anomalies were observed over the entire survey area. The most prominent feature identified was a southeast-northwest trending conductivity high on the northern part of the site. This high probably represents buried utility lines reported in this approximate location. Significant conductivity lows were also identified and are associated with the stair railing and guard rail. Other anomalies were identified on the slope leading down to the ravine and in the northern, more level part of the site. Most of these correlated with visible metal objects.

Eight GPR lines were run from north to south and one from south to north. These lines were run on the northern portion of the site. The steepness, overgrowth, and debris in the southern part of the site prevented GPR data acquisition. Several objects were observed at estimated depths of 2 to 5 feet. These objects most likely represent the aforementioned utility lines. Additionally, one GPR line showed a possible fill area which may contain debris from previous site activities. Additional details regarding the geophysical survey at Site 1 are presented in **Appendix B**.

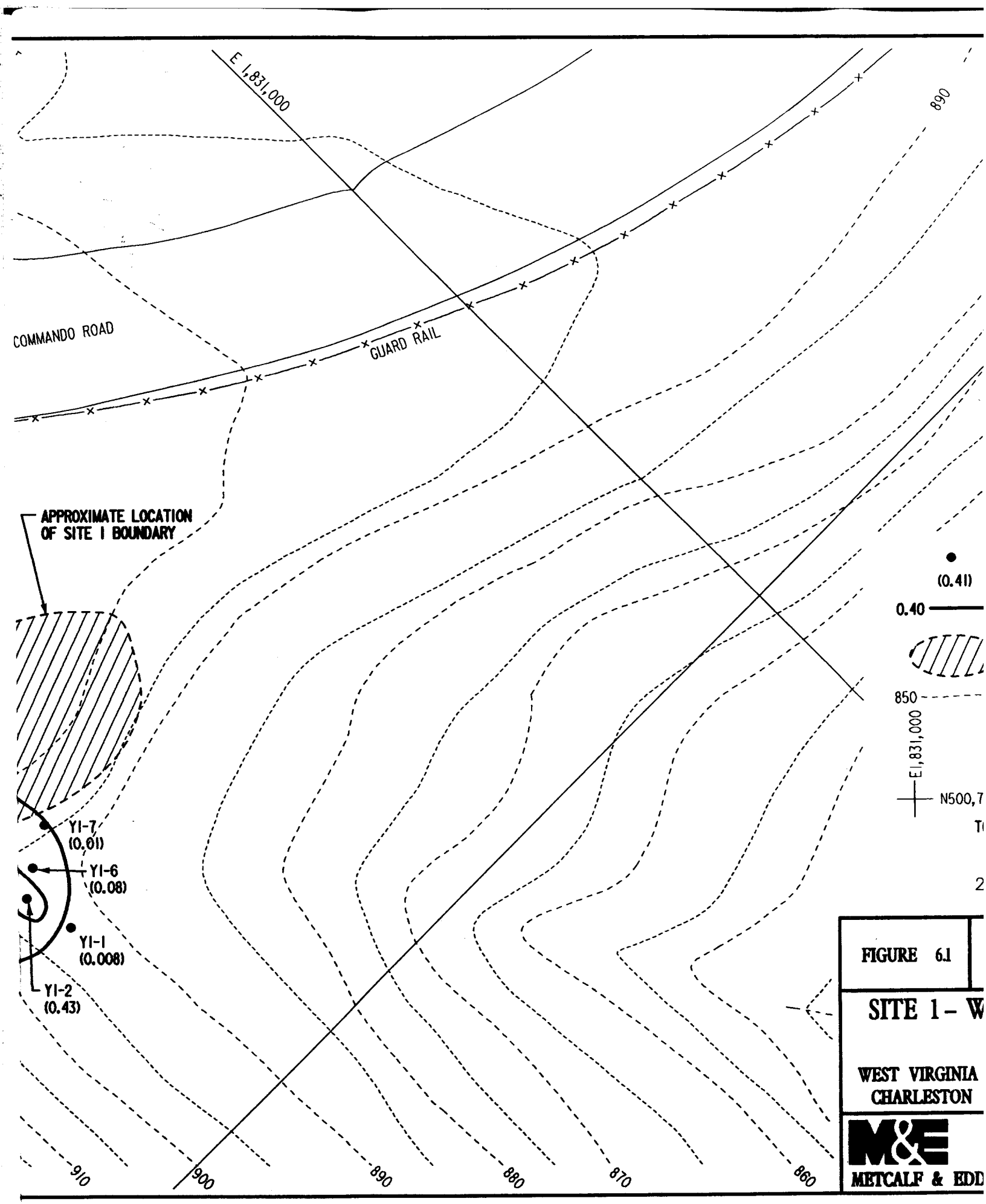
6.3.2.2 Soil Organic Vapor Survey

A SOV survey was performed at Site 1 after the completion of the geophysical survey. Ten SOV samples were collected from eight locations shown on **Figure 6.1**. The initial SOV sample locations were selected based on the geophysical survey results. The locations were concentrated in areas of EM anomalies which did not correlate to known interferences. One sample location (Y1-1) was profiled at 1-foot intervals to establish a target depth for the remaining locations. The sample from Y1-1 exhibiting the highest SOV concentration was selected as the target depth for the remaining sample locations. The target depth selected was at 3 feet below ground surface. Each SOV sample was analyzed for BTEX, trichloroethene (TCE), tetrachloroethene (PCE), trichloroethane (TCA), and total volatile hydrocarbons (TVHC).

Table 6-3 summarizes the depth, compounds detected, and total organic concentration for each sample location. Total organic concentration is the sum of all compounds detected, and



LOC. p:\proj\16545YAP\C\CZYAP001.DGN DATED: 12-20-95 BY: ROS


E 1,831,000
COMMANDO ROAD
GUARD RAIL
APPROXIMATE LOCATION
OF SITE I BOUNDARY
YI-7
(0.01)
YI-6
(0.08)
YI-1
(0.008)
YI-2
(0.43)
910
900
890
880
870
860
890
(0.41)
0.40
850
E 1,831,000
N500,7
T
2
FIGURE 6.1
SITE 1 - W
WEST VIRGINIA
CHARLESTON
M&E
METCALF & EDD

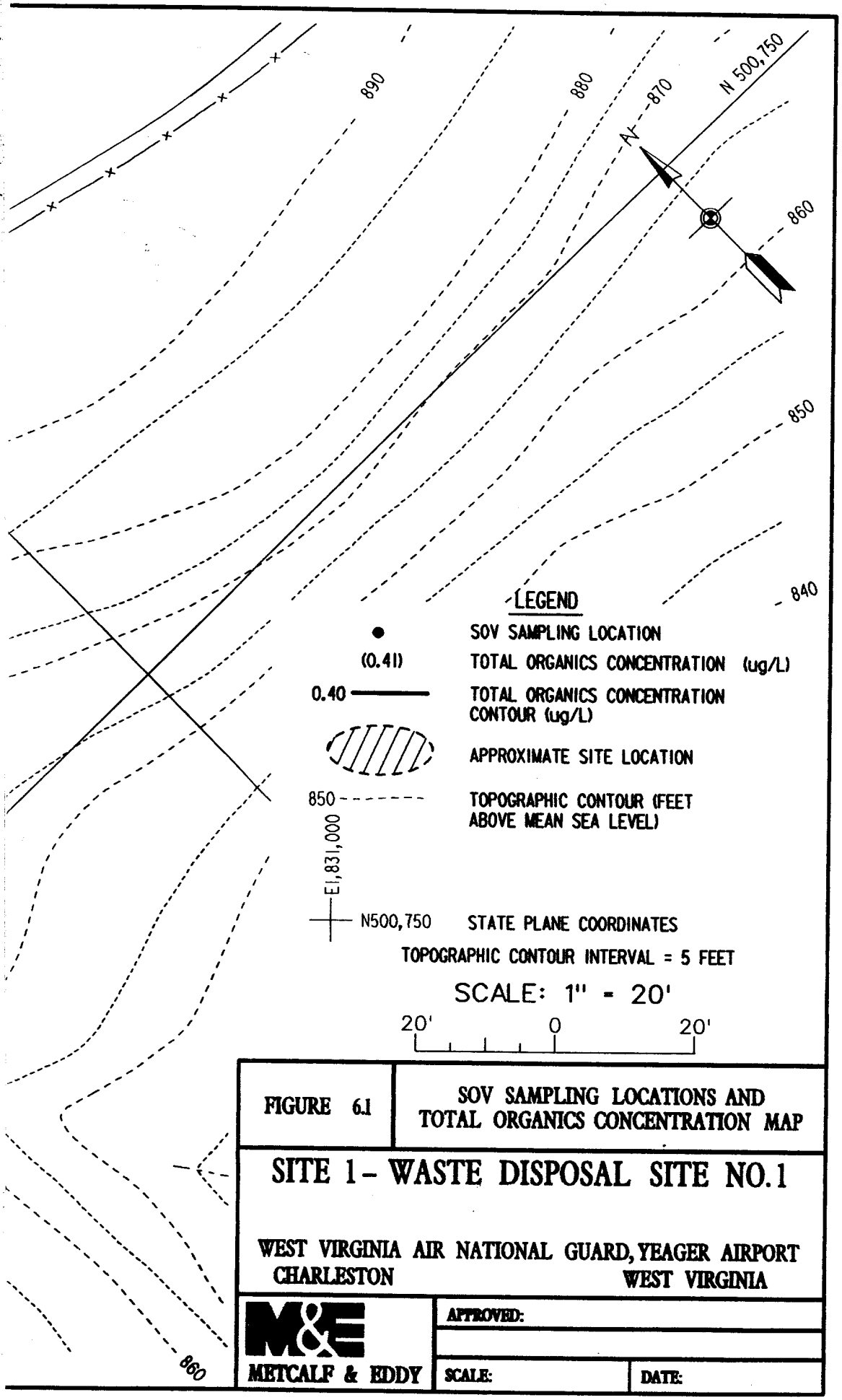


FIGURE 6.1	SOV SAMPLING LOCATIONS AND TOTAL ORGANICS CONCENTRATION MAP

SITE 1 - WASTE DISPOSAL SITE NO.1

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY	APPROVED:	
	SCALE:	DATE:

was used to determine confirmation sampling locations. As shown, benzene, TCA, PCE, TCE, and TVHC were detected. **Table 6-4** depicts the frequency of detection, highest concentration detected, and location of highest concentration for each compound. The highest concentrations were detected within the ravine. **Figure 6.1** also depicts the lateral extent of total organics detected. The lateral extent of individual compounds is similar to the distribution of total organics (and is not graphically presented). The occurrence of contaminants appears to be of limited vertical and horizontal extent. The highest concentrations occurred at approximately 3 feet below ground surface within the ravine immediately south of the site. Additional details regarding the SOV survey are presented in **Appendix C.**

TABLE 6-3
SUMMARY OF COMPOUNDS DETECTED
SOV SURVEY
SITE 1

Sample Location	Target Depth (ft)	Compounds Detected	Total Organics Concentration ($\mu g/L$)
Y1-1	3	TCA, PCE	0.0084
Y1-2	2.5	TCA, TCE, PCE, Benzene, TVHC	0.4304
Y1-3	3	TCA, TCE, PCE	0.0024
Y1-4	3	TCA, TCE, PCE, Benzene, TVHC	0.4105
Y1-5	3	TCA, PCE, Benzene, TVHC	0.1225
Y1-6	3	TCA, TCE, PCE	0.0808
Y1-7	3	TCA, PCE	0.0104
*Y1-8	3	TCA, TCE, PCE, Benzene, TVHC	0.3106

Notes: TVHC = Total Volatile Organic Hydrocarbons C_4 - C_9 range.
* = Background location.

TABLE 6-4 FREQUENCY OF COMPOUNDS DETECTED SOV SURVEY SITE 1				
Compound	**Frequency**	**Highest Concentration (µg/L)**	**Location**	**Depth (ft)**
TCA	8 of 8	0.0008	Y1-6	3
TCE	5 of 8	0.06	Y1-6	3
PCE	8 of 8	0.09	Y1-8	3
Benzene	4 of 8	0.2	Y1-4, Y1-2	3/2.5
TVHC	4 of 8	0.2	Y1-4, Y1-2	3/2.5

6.3.2.3 Hand Auger Borings/Sediments

Ten shallow hand auger borings (WV1HA01-WV1HA10) were drilled at Site 1. The depths of the borings ranged from 2.9 to 5.0 feet below ground surface. Two soil samples were collected from each boring for a total of 20 samples. The depths of the samples ranged from 0.9 to 4.9 feet below ground surface. Two sediment samples were also collected within the ravine, approximately 40 and 85 feet from the waste disposal area. Each sample was analyzed for VOCs, SVOCs, and PPMs. The boring locations and sediment samples were selected based on the SOV survey results. The locations are presented on **Figure 4.2** in Section Four. The samples were collected to assess the waste disposal area (WV1HA03), downgradient of the waste disposal area (WV1HA01-02, WV1HA04-05, WV1HA09, WV1SE01-WV1SE02), and the alluvial fan area (WV1HA06-WV1HA08). Hand auger boring WV1HA10 was drilled as a background boring. The analytical data is presented in **Table 6-5.**

TABLE 6-5
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLING AREA SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1HA0101 DSA 12/16/94 1.7' SOIL mg/kg	WV1HA0102 DSA 12/16/94 2.9' SOIL mg/kg	WV1HA0201* DSA 12/16/94 0.9' SOIL mg/kg	WV152* DSA 12/16/94 0.9' SOIL mg/kg	WV1HA0202 DSA 12/15/94 3.6' SOIL mg/kg	WV1HA0301 WDA 12/16/94 3.1' SOIL mg/kg
VOLATILE ORGANICS			U	U	U		U	U
Methylene chloride	0.01 - 90					0.002 BJ		
SEMIVOLATILE ORGANICS			U	U	U		U	
bis(2-Ethylhexyl)phthalate	0.6 - 50					0.042 J		0.76
PRIORITY POLLUTANT METALS								
Antimony	0.6 - 30	NA						27.2 J
Arsenic	5 - 100	2.2	1.7 J	2.3 J	4.5	3.3	1.8	14.9
Beryllium	0.2 - 180	2.04	1.1	1.4	1.1	0.79	1.4	0.36
Cadmium	0.5 - 40	1.32	2	3.4	3.8	3	8.6	106
Chromium	100 - 400	23.8	14.9	24.8	18.8	15.6	23.9	324
Copper	130	68.2	17	29.7	27.8	19.8	38.6	1180
Lead	1.5 - 100	17.94	8.7	12.8	33.8	33.6	49.1	2160
Mercury	0.2 - 20	0.22						8.7
Nickel	10 - 2000	38.26	29.2	33	18	12.3	20.3	317
Silver	100 - 200	NA	0.85 J		1.3 J	1.2 J	1.3 J	48.7 J
Zinc	42,000	44.6	52.4	50.1	69.1	47.8	99.7	8060

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED
NA - NOT AVAILABLE
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

DSA - DOWNSLOPE AREA

WDA - WASTE DISPOSAL AREA

TABLE 6-5, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLING AREA SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1HA0302 WDA 12/15/94 4.0' SOIL mg/kg	WV1HA0401 DSA 12/16/94 1.0' SOIL mg/kg	WV1HA0402 DSA 12/16/94 5.0' SOIL mg/kg	WV1HA0501 DSA 12/16/94 1.0' SOIL mg/kg	WV1HA0502 DSA 12/16/94 3.0' SOIL mg/kg	WV1HA0601 AFA 12/16/94 2.1' SOIL mg/kg
VOLATILE ORGANICS				U	U	U	U	U
Toluene	5 - 20,000		0.004 J					
SEMIVOLATILE ORGANICS					U		U	U
Anthracene	4300					0.057 J		
Benzo(a)anthracene	0.7			0.093 J		0.21 J		
Benzo(b)fluoranthene	4			0.063 J		0.17 J		
Benzo(k)fluoranthene	4			0.062 J		0.16 J		
Benzo(a)pyrene	0.02 - 4		0.048 J	0.072 J		0.21 J		
Benzo(g,h,i)perylene	NL					0.18 J		
Chrysene	1		0.056 J	0.090 J		0.21 J		
Dibenz(a,h)anthracene	11					0.077 J		
bis(2-Ethylhexyl)phthalate	0.6 - 50		0.10 J					
Indeno(1,2,3-cd)pyrene	35					0.15 J		
Fluoranthene	980		0.058 J	0.16 J		0.33 J		
Phenanthrene	NL			0.099 J		0.19 J		
Pyrene	1400		0.060 J	0.13 J		0.30 J		
PRIORITY POLLUTANT METALS								
Antimony	0.6 - 30	NA	82.1 J	20.5 J		6.6 J		
Arsenic	5 - 100	2.2	19.5		0.8 J	8.4 J	2.7 J	3.7 J
Beryllium	0.2 - 180	2.04	0.56	0.81	1.2	0.97	1.1	1.6
Cadmium	0.5 - 40	1.32	102	14.5	5.7	20.6	7.6	3.3
Chromium	10 - 400	23.8	196	43.5	40.3	307	108	17.8
Copper	130	68.2	2270	142 J	35.7 J	397 J	37.4 J	21.7 J
Lead	1.5 - 100	17.94	1990	124	15.1	651	37.5	16.5
Mercury	0.2 - 20	0.22	4.4	0.31 J	28.2	5 J	2.9 J	0.13 J
Nickel	10 - 2000	38.26	94.4	30.9		60.2	16.6	21.6
Selenium	3 - 20	NA						0.62 J
Silver	100 - 200	NA	44.4 J	10.8 J		29 J		
Zinc	42,000	44.6	3670	5990	52.8	3230	131	44.6

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED

AFA - ALLUVIAL FAN AREA

DSA - DOWNSLOPE AREA
WDA - WASTE DISPOSAL AREA

TABLE 6-5, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLING AREA SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1HA0602 AFA 12/16/94 2.0' SOIL mg/kg	WV1HA0701 AFA 12/16/94 2.1' SOIL mg/kg	WV1HA0702 AFA 12/16/94 3.0' SOIL mg/kg	WV1HA0601 AFA 12/17/94 1.1' SOIL mg/kg	WV1HA0602 AFA 12/17/94 3.0' SOIL mg/kg	WV1HA0601* DSA 12/17/94 1.5' SOIL mg/kg
VOLATILE ORGANICS				U		U	U	U
Acetone	8 - 8000		0.057		0.037 J			
SEMIVOLATILE ORGANICS			U	U	U	U	U	
Chrysene	1							0.042 J
Fluoranthene	980							0.065 J
Pyrene	1400							0.052 J
PRIORITY POLLUTANT METALS								
Antimony	0.6 - 30	NA			7 J			
Arsenic	5 - 100	2.2	3 J	3.3 J	3.9 J	2.2 J	3 J	1.8 J
Beryllium	0.2 - 180	2.04	1.5	1.3	1.8	1.1	1.4	0.93
Cadmium	0.5 - 40	1.32	4.2	4.9	7.1	5.4	3.8	3.3
Chromium	10 - 400	23.8	19.6	21.2	28.7	19.2	17	19.4
Copper	130	68.2	31.5 J	23.1 J	23.3 J	29.2 J	16.3 J	19.7 J
Lead	1.5 - 100	17.94	13.3	22.6	15.4	23.4	13.6	14.5
Mercury	0.2 - 20	0.22	0.15 J	0.16 J	0.13 J	0.12 J		0.13 J
Nickel	10 - 2000	38.26	19.5	25.3	21	27.3	20	19.5
Selenium	3 - 20	NA		0.93 J				
Zinc	42,000	44.6	42.5	77	50.1	57.5	43.3	42.3

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED
NA - NOT AVAILABLE
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

AFA - ALLUVIAL FAN AREA

DSA - DOWNSLOPE AREA

TABLE 6-5, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLING AREA SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1SS* DSA 12/17/94 1.0' SOIL mg/kg	WV1HA0002 DSA 12/17/94 4.0' SOIL mg/kg	WV1HA1001 DSA 12/17/94 1.0' SOIL mg/kg	WV1HA1002 DSA 12/17/94 3.0' SOIL mg/kg
VOLATILE ORGANICS			U	U	U	U
SEMIVOLATILE ORGANICS			U	U	U	U
PRIORITY POLLUTANT METALS						
Antimony	0.6 - 30	NA				
Arsenic	5 - 100	2.2	3 J	2.9 J	5.1 J	1.5 J
Beryllium	0.2 - 180	2.04	0.82	0.83	1.2	0.86
Cadmium	0.5 - 40	1.32	3.1	1.6	3.7	4.3
Chromium	10 - 400	23.8	18.5	14.3	21.8	17.8
Copper	130	68.2	36.8 J	19.3 J	28.6 J	29.2 J
Lead	1.5 - 100	17.94	22.7	11.3	15.5	17.1
Mercury	0.2 - 20	0.22	0.17 J	0.15 J	0.14 J	
Nickel	10 - 2000	38.26	17.5	11.6	31.2	15.8
Selenium	3 - 20	NA	0.94 J			
Silver	100-200	NA				
Zinc	42,000	44.6	36.4	21.5	58.4	49.4

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 6.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS
DSA - DOWNSLOPE AREA

TABLE 6-5, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SURFACE WATER

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	MCL (1) WATER ug/L	WVWQS (2) Acute/Chronic WATER ug/L	WV1SW01 12/14/94 1.0-2.0' WATER ug/L
PCBS		U	U
VOLATILE ORGANICS		U	U
SEMIVOLATILE ORGANICS		U	U
PRIORITY POLLUTANT METALS			
Copper	1300	(a)	6.3 J
Selenium	50	20 / -	2.8

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(2) - WEST VIRGINIA WATER QUALITY STANDARD AS LISTED IN SECTION 5.0, TABLE 5-1
(a) - BASED ON HARDNESS
J - RESULT ESTIMATED
U - ALL PARAMETERS ARE UNDETECTED

TABLE 6-5, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SEDIMENTS

SAMPLE ID SAMPLING AREA SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1SE01 DSA 12/14/94 0.5' SEDIMENT mg/kg	WV1SE02 DSA 12/14/94 0.5' SEDIMENT mg/kg
VOLATILE ORGANICS			U	U
SEMIVOLATILE ORGANICS			U	U
PRIORITY POLLUTANT METALS				
Arsenic	5 - 100	2.2	3.2	6.2
Beryllium	0.2 - 180	2.04	0.62	1.1
Cadmium	0.5 - 40	1.32	3.4	4.1
Chromium	10 - 400	23.8	24.2	18.6
Copper	130	68.2	34.7	26
Lead	1.5 - 100	17.94	44.8	45.9 J
Nickel	10 - 2000	38.26	18	25.3
Selenium	3 - 20	NA	1.6	1.1
Silver	100 - 200	NA	1.7 J	1.8 J
Zinc	42,000	44.6	118	123

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
U - ALL PARAMETERS ARE UNDETECTED
DSA - DOWNSLOPE AREA

Waste Disposal Area

A low concentration of one VOC, toluene, was detected. However, toluene was three orders-of-magnitude below even the minimum screening criterion (0.004 vs. 0.6 mg/kg) and is not considered to be significant. SVOCs detected include bis (2-ethylhexyl)phthalate and several polynuclear aromatic hydrocarbons (PAHs). Bis(2-ethylhexyl)phthalate slightly exceeded the minimum screening level in the 3.1 foot sample (0.76 vs 0.6 mg/kg), but is well within the range and is not considered to be significant. PAHs [benzo(a)pyrene, chrysene, fluoranthene, and pyrene] were estimated values in very low concentrations. Benzo(a)pyrene was at the low end of the screening value range. All other PAHs were orders-of-magnitude below screening levels and none are significant. In summary no volatile or semi-volatile organics were detected at significant concentrations.

Metals exceeding the maximum screening level in the 3.1-foot depth sample were cadmium (105 vs 40 mg/kg), copper (1180 vs 130 mg/kg), and lead (2150 vs 100 mg/kg). In addition to these constituents antimony also exceeded the maximum screening level in the 4-foot depth sample (52.1 vs 30 mg/kg). Concentrations did not consistently decrease with depth for these four parameters.

Downslope Area

Low levels of methylene chloride and toluene were detected in soil at concentrations well below minimum screening criteria. Methylene chloride was also found in the associated blank. Neither occurrence is considered to be significant. No VOCs were detected in sediment samples.

Low concentrations of SVOCs were detected downslope of the waste disposal area. All were well below minimum screening criteria except benzo(a)pyrene in one sample which was within the screening criteria range. The SVOCs were not detected in sediment (40 feet downslope of the waste disposal area). The SVOCs appear to be limited to the upper 2 feet. Since SVOCs were also detected at an upslope location (WV1HA09) (which correlates with

the SOV survey data), SVOCs detected may be attributed to surface water runoff to the ravine from base and/or airport runway operations.

Two metals, copper and lead, exceeded maximum screening levels in two locations. Location WV1HA04 had a copper concentration of 142 mg/kg (vs. 130 mg/kg) and lead of 124 mg/kg (vs. 100 mg/kg). Concentrations of copper and lead were higher at WV1HA05, 397 and 651 mg/kg, respectively. These samples were located in the upper 2 feet and show a limited extent of horizontal and vertical migration from the waste disposal area.

Alluvial Fan

Very low concentrations of acetone were detected in two locations (WV1HA06 and WV1HA07) at levels well below the minimum screening criterion. Since acetone is a common laboratory contaminant, it may be attributable to laboratory activities. No SVOCs were detected in any alluvial fan area samples. All the metals detected were within the range of screening criteria and were close to criterion background concentrations. Based on these findings contamination migration has not extended to the alluvial fan area.

6.3.2.4 Surface Water

One surface water sample was collected at the initial seep within the ravine, approximately 310 feet downslope of the waste disposal area. The location is presented on **Figure 4.2** in Section Four. The sample was analyzed for VOCs, SVOCs, and PPM. No VOCs or SVOCs were detected. Only copper (6.3 μg/L) and selenium (2.8 μg/L) were detected, but at concentrations well below Maximum Contaminant Levels (MCLs). Selenium slightly exceeded the WVWQS based on acute exposure and a small, non-fishable stream classification B3 (2.8 vs. 2.4 μg/L). The detection is not considered to be significant given environmental variability. The analytical data is presented in **Table 6-5.**

6.3.3 Confirmation and Delineation Activity Results

6.3.3.1 Hand Auger Borings

Two additional hand auger borings (WV1HA11-WV1HA12) were drilled within the waste disposal area to confirm and further delineate the occurrence of metals in the waste disposal area. The locations are presented on **Figure 4.2** in Section Four. The boring depths ranged from 6.0 feet at WV1HA11 to 3.5 feet at WV1HA12. Two samples were collected from WV1HA11 and one from WV1HA12 due to shallow refusal. Each sample was analyzed for VOCs, SVOCs, and PPM. The analytical results are presented in **Table 6-6.**

As shown, the analytical results were similar to the screening activity results. No significant VOCs or SVOCs were detected. Fluoranthene was identified in one sample at a concentration well below the screening criterion.

Cadmium, copper, and lead exceeded maximum screening criteria in one location (WV1HA1101) at a 1-foot depth. Concentrations detected and maximum screening criteria for cadmium, copper, and lead were 59.5 mg/kg (vs 40 mg/kg), 780 mg/kg (vs 130 mg/kg) and 1180 mg/kg (vs 100 mg/kg), respectively.

6.3.3.2 Surface Water

Surface water sample location WV1SW01 was resampled as part of the confirmation and delineation activities, instead of installing monitoring wells within the alluvial fan. The seep at WV1SW01 represents a groundwater discharge point and is a site-specific groundwater monitoring location. Monitoring wells within the alluvial fan have the potential for monitoring groundwater from sources other than Site 1.

TABLE 6-6
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV1HA1101 04/18/96 1.0' SOIL mg/kg	WV1HA1102 04/18/96 6.0' SOIL mg/kg	WV1HA1201* 04/18/96 1.0' SOIL mg/kg	WV162* 04/18/96 1.0' SOIL mg/kg
VOLATILE ORGANICS			U	U	U	U
SEMIVOLATILE ORGANICS			U	U		U
Fluoranthene	980				0.048 J	
PRIORITY POLLUTANT METALS						
Antimony	0.6 - 30	NA		20.8 J		
Arsenic	6 - 100	2.2	2.1 J	18 J	3.8 J	10.3 J
Beryllium	0.2 - 180	2.04	0.96	1.1	1.1	1.2
Cadmium	0.5 - 40	1.32	66.6	3.7 J	3.7 J	2.8 J
Chromium	10 - 400	23.8	216	14.3	14.3	11.9
Copper	130	68.2	790	17.7	17.7	14.1
Lead	1.5 - 100	17.94	1190	45.1	45.1	24.4
Mercury	0.2 - 20	0.22	2			0.13
Nickel	10 - 2000	38.26	151	17.3	17.3	11.1
Selenium	3 - 20	NA	0.86 J			0.48 J
Silver	100-200	NA	32 J	1.2 J	0.88 J	0.9 J
Zinc	42,000	44.6	3110	44.3	37.6	36.5

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

TABLE 6-6, continued
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 1
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SURFACE WATER

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	MCL (1) WATER ug/L	WVWQS (a) Acute/Chronic WATER ug/L	WV1SW0102 12/16/94 1.0-2.0' WATER ug/L
PCBS			
VOLATILE ORGANICS			
2-Butanone	NL	- / -	5 J
Trichloroethene	5	- / -	0.1 J
SEMIVOLATILE ORGANICS			U
PRIORITY POLLUTANT METALS			
Cadmium	5	(a)	3.7 J
Selenium	50	20 / -	3.2 J

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(a) - BASED ON HARDNESS
J - RESULT ESTIMATED
NL - NO MAXIMUM CONTAMINANT LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED

As in Phase 1, no constituents exceeded MCLs. Low, estimated concentrations of 2-Butanone (5.0 μg/L) and TCE (0.1 μg/L) were detected. Cadmium and selenium were also detected below MCLs and WVWQSs. The analytical results are presented in **Table 6-6.**

6.3.4 Geologic and Hydrogeologic Investigation Results

Subsurface conditions at Site 1 were investigated through the use of hand auger borings to a maximum depth of 5 feet. The presence of utilities, dense vegetation, and steep terrain prohibited the use of a drill rig to obtain samples. Samples were obtained within and around the suspected limits of the waste disposal area, and from depositional areas within the ravine downgradient of the site. Refusal due to rock terminated the majority of the borings at 3 to 4 feet.

The soil around the disposal area was composed of silt and clay mixtures, with fine sand a minor component. Two borings, HA04 and HA09, were able to reach termination depth before refusal. Both borings were located west of the disposal area. Material within the disposal area was characterized as loose, black sand fill mixed with debris. The debris consisted of glass, metal, wire and paper.

Material deposited within the alluvial fan was characterized as a wet, poorly sorted mixture of fines and gravel. All the borings in this area terminated with refusal on gravel at approximately 3 feet.

6.4 SITE 2 - WASTE DISPOSAL SITE NO. 2

6.4.1 Site Description

Waste Disposal Site No. 2 is across from Building 116, off Commando Road (see **Figure 2.2** in Section Two). The site, currently inactive, was used primarily as a construction debris landfill that included soil and asphalt and concrete rubble from construction of the Base and the airport. However, disposal of fuels, waste oils, solvents, and possibly other liquid

wastes was reported. The disposal of wastes at Site No. 2 began in the early 1950s. Approximately three 55-gallon drums of fuels, waste oils, and solvents were disposed of each year (Peer 1989). Disposal of the liquid wastes ended around 1980. Approximately 600 gallons of dried sewage sludge from the wastewater treatment plant were disposed of from 1971 to 1989. No hazardous waste is known to have been disposed of in the wastewater treatment plant and consequently would not be expected in the sludge. At the time of the PA site visit five 55-gallon drums were seen partially buried within the dump area. Three were reported full of concrete and two were empty. No drums were evident during the kickoff meeting site visit.

Waste Disposal Site No. 2 is situated at the top of a ravine. An embankment formed mainly of soil, rock, and concrete/asphalt rubble extends down to an intermittent stream channel. The embankment is approximately 50 feet downstream of a storm drain discharge pipe which serves most of the Base's storm drain system. The discharge pipe and drainage channel are shown on Figure 4.3 in Section 4.0. This pipe drained the oil-water separator in the POL area for a period of about 18 months in 1990 and 1991. The drain pipe for the oil-water separator has since been tied into the sanitary sewer. The embankment, approximately 200 feet wide and 20 to 40 feet high, encompasses an area of about 4,000 to 8,000 square feet, with the toe of the embankment forming part of the stream channel.

The adjacent stream channel receives runoff from Site No. 2, the POL area, and the Base and/or airport runway property. The channel follows a wooded ravine and forms the headwater of an unnamed tributary that feeds into Coonskin Branch and eventually Elk River. The surface water runoff flow directions are depicted on Figure 3.7 in Section 3.0.

6.4.2 Screening Activity Results

6.4.2.1 Geophysical Survey

EM and GPR surveys were performed as the initial field screening at Site 2. The surveys were performed on an orthogonal grid system with a grid node spacing of 10 feet. The grid,

oriented north-south, was measured from the corner fence-post on the east side of the site. The grid designation increased both northward and eastward. Several sources of interference were noted in the area, including the fence, which runs along the eastern and southern edges of the site, a large roll-off and a bulldozer on the northern end of the site, as well as several debris piles.

One hundred and sixty five EM measurements were collected as part of the survey. Large EM anomalies were observed along the fence and near the roll-off, bulldozer, and pile of steel fence posts. Overall, most of the site area exhibited slightly low conductivity, which increased significantly down the slope on the southern end of the site. No significant anomalies, other than those mentioned above, were observed.

Nine GPR lines were run from east to west across the site and one was run from south to north. The GPR data showed a strong horizon at an estimated depth of 2 feet, with little penetration below it. This horizon is level, but very rough and uneven. No obvious objects, structure, or fill areas were observed. Additional details regarding the geophysical surveys at Site 2 are presented in **Appendix B.**

6.4.2.2 Hand Auger Borings

Eight shallow hand auger borings (WV2HA01-WV2HA08) were drilled at Site 2. The depths of the borings ranged from 1.8 to 6.0 feet below ground surface. Two soil samples were collected from each boring with the exception of WV2HA03, WV2HA04, WV2HA07, and WV2HA08 where refusal was encountered at depths ranging from 1.8 to 2.6 feet. Each sample was analyzed for VOCs, SVOCs, PPM, and PCBs. The borings were drilled between the toe of the landfill and the pond (WV2HA02, WV2HA05-WV2HA07) and along the north (WV2HA03, WV2HA04) and south (WV2HA01) sides of the landfill. The locations are presented on **Figure 4.3** in Section Four. The samples were collected to confirm the presence or absence of contamination. The analytical data is presented in **Table 6-7.**

TABLE 6-7
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2HA0101* 12/18/94 1.3' SOIL mg/kg	WV254* 12/18/94 1.3' SOIL mg/kg	WV2HA0102 12/18/94 3.8' SOIL mg/kg	WV2HA0201 12/18/94 1.3' SOIL mg/kg	WV2HA0202 12/18/94 6.0' SOIL mg/kg	WV2HA0301 12/18/94 1.0' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS			U	U	U	U		U
Acetone	8 - 8000						0.015	
SEMIVOLATILE ORGANICS							U	
Acenaphthene	200							
Acenaphthylene	NL							0.05 J
Anthracene	4300							0.054 J
Benzo(a)anthracene	0.7		0.16 J	0.15 J	0.065 J	0.037 J		0.39
Benzo(b)fluoranthene	4		0.17 J	0.17 J	0.061 J	0.041 J		0.44
Benzo(k)fluoranthene	4		0.15 J	0.17 J	0.053 J	0.044 J		0.37 J
Benzo(g,h,i)perylene	NL		0.15 J	0.16 J	0.044 J	0.037 J		0.32 J
Benzo(a)pyrene	0.02 - 4		0.18 J	0.17 J	0.058 J	0.042 J		0..44
Carbazole	0.2**							0.037 J
Chrysene	1		0.18 J	0.17 J	0.073 J	0.054 J		0.42
Dibenzo(a,h)anthracene	11		0.048 J	0.053 J				0.11 J
Fluoranthene	960		0.33 J	0.24 J	0.10 J	0.076 J		0.69
Indeno(1,2,3-cd)pyrene	35		0.12 J	0.13 J	0.037 J			0.29 J
Phenthanrene	NL		0.11 J	0.051 J	0.042 J			0.26 J
Pyrene	1400		0.24 J	0.19 J	0.075 J	0.062 J		0.59
PRIORITY POLLUTANT METALS								
Antimony	0.6 - 30	NA	7.6 J					
Arsenic	5 - 100	2.2	8.5 J	2.1 J	2.5 J	2.4 J	1.3 J	1.7 J
Beryllium	0.2 - 180	2.04	1.4	1.2	1.9	1.4	1.3	0.94
Cadmium	0.5 - 40	1.32	5.9 J	2.9 J	6 J	3.9 J	6.4 J	3.6 J
Chromium	10 - 400	23.8	18.8	15.3	28.9	21.2	20	15.6
Copper	130	68.2	32.1	38	37.9	29	30.1	21.3
Lead	1.5 - 100	17.94	31.6	20.5	21.4	20.7	24.6	24.4
Mercury	0.2 - 20	0.22			0.16 J		0.15	0.14
Nickel	10 - 2000	38.26	27.6	25.4	34.3	26.8	26.1	20.9
Selenium	3 - 20	NA	0.86 J		0.98 J			
Zinc	42,000	44.6	54.5	42.7	48.9	45.5	70.3	46.8

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-7, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2HA0401 12/18/94 1.2' SOIL mg/kg	WV2HA0501 12/18/94 3.0' SOIL mg/kg	WV2HA0502 12/19/94 3.5' SOIL mg/kg	WV2HA0901* 12/18/94 1.7' SOIL mg/kg	WV250* 12/18/94 1.7' SOIL mg/kg	WV2HA0902 12/19/94 3.5' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS				U	U	U	U	U
Acetone	8 - 8000		0.014					
SEMIVOLATILE ORGANICS				U	U	U	U	
bis(2-Ethylhexyl)phthalate	0.6 - 50		0.12 J					0.13 J
PRIORITY POLLUTANT METALS								
Arsenic	5 - 100	2.2	2.5 J	2.3 J	2.6 J	2.1 J	2.1 J	1.4 J
Beryllium	0.2 - 180	2.04	0.63	0.41	0.44	0.42	0.43	0.39
Cadmium	0.5 - 40	1.32	4 J	1.5 J	1.4 J	1.4 J	1.8 J	1.2 J
Chromium	10 - 400	23.8	19	8.7	8.5	10.1	8.7 J	7.4
Copper	130	68.2	10.3	7.4	7.9	7.1	7.5	3.8 J
Lead	1.5 - 100	17.94	9.5	20.9	22.8	19.4	13.9	7.2
Mercury	0.2 - 20	0.22	0.13 J		0.17		0.12 J	
Nickel	10 - 2000	38.26	8.6	6.2	5.9	9.8	7.1	8.1
Selenium	3 - 20	NA	0.52 J	0.64 J	0.94 J	0.57 J	0.5 J	0.53 J
Zinc	42,000	44.6	41.9	30.6	29.2	28.4	30.1	26.5

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

TABLE 6-7, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2HA0701 12/16/94 2.5' SOIL mg/kg	WV2HA0801 12/16/94 2.5' SOIL mg/kg
PCBS			U	U
VOLATILE ORGANICS				U
Acetone	8 - 8000		0.024	
Methylene chloride	0.01 - 90		0.001J	
SEMIVOLATILE ORGANICS				
Acenaphthene	200		0.18 J	
Anthracene	4300		0.31 J	
Benzo(a)anthracene	0.7		0.001	0.16 J
Benzo(b)fluoranthene	4		0.70	0.13 J
Benzo(k)fluoranthene	4		0.83	0.14 J
Benzo(g,h,i)perylene	NL		0.49	0.12 J
Benzo(a)pyrene	0.02 - 4		0.83	0.15 J
bis(2-Ethylhexyl)phthalate	0.6 - 50		0.96 J	0.11 J
Carbazole	0.2**		0.24 J	
Chrysene	1		0.001	0.19 J
Dibenzo(a,h)anthracene	11		0.20 J	
Dibenzofuran	NL		0.093 J	
Fluoranthene	980		2.5	0.34 J
Fluorene	160		0.19 J	
Indeno(1,2,3-cd)pyrene	35		0.45	0.097 J
Phenanthrene	NL		1.4	0.12 J
Pyrene	1400		0.001	0.25 J
PRIORITY POLLUTANT METALS				
Arsenic	5 - 100	2.2	1.8 J	1.9 J
Beryllium	0.2 - 180	2.04	1	1.3
Cadmium	0.5 - 40	1.32	2.9 J	5 J
Chromium	10 - 400	23.8	19.7	25.8
Copper	130	68.2	22.7	27.7
Lead	1.5 - 100	17.94	57.8	114
Mercury	0.2 - 20	0.22		
Nickel	10 - 2000	38.26	19.9	28.9
Silver	100 - 200	NA		1.1 J
Zinc	42,000	44.6	74.2	63.3

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-7, continued
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SEDIMENTS

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2SE01 12/14/94 0.5' SEDIMENT mg/kg	WV2SE02 12/14/94 0.5' SEDIMENT mg/kg	WV2SE03 12/14/94 0.5' SEDIMENT mg/kg	WV2SE04* 12/14/94 0.5' SEDIMENT mg/kg	WV251* 12/14/94 0.5' SEDIMENT mg/kg
VOLATILE ORGANICS			U				
Acetone	8 - 8000			0.24	0.11	0.10	0.16
2-Butanone	NL			0.056			
Toluene	5 - 20,000					0.001 J	0.003 J
SEMIVOLATILE ORGANICS							
Benzo(a)anthracene	0.7		0.18 J	0.40 J			
Benzo(b)fluoranthene	4		0.18 J	0.58 J			
Benzo(k)fluoranthene	4		0.21 J	0.44 J			
Benzo(a)pyrene	0.2 - 4		0.17 J	0.45 J			
Benzo(g,h,i)perylene	NL		0.12 J	0.33 J			
Butylbenzylphthalate	68 - 20,000		0.17 J	0.18 J			
Carbazole	0.2**			0.073 J			
Chrysene	1		0.26 J	0.70			
Dibenzo(a,h)anthracene	11			0.12 J			
bis(2-Ethylhexyl)phthalate	0.6 - 50		0.36 J	0.97	0.058 J	0.051 J	0.050 J
Fluoranthene	980		0.48 J	1.2	0.093 J	0.043 J	
Indeno(1,2,3-cd)perylene	35		0.12 J	0.31 J			
Naphthalene	30		0.10 J	0.064 J			
Phenanthrene	NL		0.11 J	0.39 J			
Phenol	49 - 50,000			0.33 J			
Pyrene	1400		0.36 J	0.95	0.067 J		
PRIORITY POLLUTANT METALS							
Antimony	0.6 - 30	NA				11.4 J	
Arsenic	5 - 100	2.2	7.1	2.3	1.6 J	4	1.5
Beryllium	0.2 - 180	2.04	0.82	0.8	0.43	0.53	
Cadmium	0.5 - 40	1.32	2.6	3.8	1.4	1.8	
Chromium	10 - 400	23.8	8	16.2	9.5	9	2.9
Copper	130	68.2	11.3	20.2	13.5	10.2	3.5
Lead	1.5 - 100	17.94	37.1	47.8	14.2	23.6	4.8
Nickel	10 - 2000	38.26	14	13.7	8.4	11.9	4.5
Selenium	3 - 20	NA	0.91				
Silver	100 - 200	NA			1.5 J		1.1 J
Zinc	42,000	44.6	99.1	114	36	46.1	17.2

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-7
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SURFACE WATER

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	MCL (1) WATER ug/L	WVWQS (2) Acute/Chronic WATER ug/L	WV2SW01 12/17/94 1.5' WATER ug/L	WV2SW02 12/17/94 1.5' WATER ug/L	WV2SW03* 12/17/94 1.5' WATER ug/L	WV250* 12/17/94 1.5' WATER ug/L	WV2SW04 04/16/95 1.5' WATER ug/L
PCBS			U	U	U	U	U
VOLATILE ORGANICS			U				
Acetone	NL	- / -		2 J	2 J		
Ethylbenzene	700	- / -		0.1 J	0.1 J	0.2 J	
1,1,2-Trichloroethane	5	- / -					0.4 J
Toluene	1,000	- / -		0.5 J	0.5 J	0.5 J	1 J
Xylenes (Total)	10,000	- / -	2	2	2	2	
SEMIVOLATILE ORGANICS							
bis(2-Ethylhexyl)phthalate	6	- / -	9 J				
PRIORITY POLLUTANT METALS							
Copper	1300	(a)	3.2 J			3 J	
Lead	15	(a)		2.4 J			
Silver	50 (3)	(a)			8 J		
Zinc	5000 (3)	(a)	37.9 J	56.2 J	30.4 J	29.5 J	25.3 J

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(2) - WEST VIRGINIA WATER QUALITY STANDARD AS LISTED IN SECTION 5.0, TABLE 5-1
(3) - NON-ENFORCEABLE SECONDARY DW STANDARD BASED ON AESTHETICS (TASTE & ODOR)
(a) - BASED ON HARDNESS
J - RESULT ESTIMATED
NL - NO MAXIMUM CONTAMINANT LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

VOCs detected include very low concentrations of acetone and methylene chloride. These compounds are common laboratory contaminants and were well below their respective minimum screening criteria. PCBs were not detected.

Low concentrations of SVOCs, primarily PAHs, were detected. The majority of SVOCs were detected in the samples collected along the south side and toe of the landfill. No SVOCs exceeded the screening criteria range. Where no levels exist (such as acenaphthylene, benzo(g,h,i)perylene, dibenzofuran, phenanthrene) concentrations were all at least one order-of-magnitude below 1 ppm, and are not considered to be significant.

Only lead exceeded the screening criteria range in one sample (WV2-HA0801) at a 2.3-foot depth. This lead occurrence is not considered to be significant in magnitude or frequency because it only slightly exceeded the SSL (114 vs 100 mg/kg) and was detected at only one location.

6.4.2.3 Surface Water/Sediments

Surface Water

Four sets of surface water and sediment samples were collected from the stream and pond adjacent to the toe of the landfill. One set (WV2SW01/SE01) was collected upstream, two sets (WV2SW02/SE02, WV2SW03/SE03) were collected from the edge of the pond, and one set (WV2SW04/SE04) was collected downstream of the landfill. The locations are presented on **Figure 4.3** in Section Four. The analytical results are shown on **Table 6-7.**

Very low concentrations of several VOCs (acetone, ethylbenzene, 1,1,2-TCA, toluene, and xylenes) were detected in the surface water. These compounds were well below their respective MCLs. (No WVWQS exist for these constituents.) Bis (2-ethylhexyl) phthalate was the only SVOC detected in surface water; the concentration slightly exceeded the MCL (9 vs 6 μg/L) in one sample; the occurrence is not considered significant in magnitude or frequency. (No WVWQS exists.) Furthermore, Bis(2-ethylhexyl)phthalate is a common

laboratory contaminant. No metals exceeded their respective MCL. All WVWQS for these metals are based on hardness.

Sediment

Low concentrations of acetone, 2-butanone, and toluene were detected in sediment samples. Acetone and toluene were well below minimum screening criteria. Although 2-butanone has no screening level, it is a common laboratory contaminant and occurred at a concentration below 0.1 mg/kg. VOCs in sediment are not considered to be significant.

A number of SVOCs were detected in the sediment samples, all at very low concentrations below screening levels. The one SVOC which exceeded its surface water criterion was below its corresponding screening level in sediment. The SVOCs detected are summarized in **Table 6-7**. SVOCs decreased in number and concentration at the downstream location.

No metals exceeded their respective SSL.

6.4.3 Confirmation and Delineation Activity Results

6.4.3.1 Soil Borings

Three Phase II soil borings (WV2SB01, WV2SB02, WV2SB03) were drilled at Site 2. The depths of the borings ranged from 16 to 24 feet below ground surface. Three samples were collected from each boring. Each sample was analyzed for VOCs, SVOCs, PPM, and PCBs. An additional boring (WV2MW01) was drilled for subsequent monitoring well installation, but refusal was encountered at 8.5 feet and the boring was abandoned. The borings were drilled along the north, northeast, and south sides of the landfill. Due to the steepness of the site, these were the only locations accessible by drill rig. The soil boring locations are presented on **Figure 4.3** in Section Four. The analytical data is presented in **Table 6-8**.

TABLE 6-8
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2SB0101 04/17/96 1.0' SOIL mg/kg	WV2SB0102 04/17/96 6.0' SOIL mg/kg	WV2SB0103 04/17/96 11.0' SOIL mg/kg	WV2SB0201 04/18/96 1.0' SOIL mg/kg
PCBS			U	U	U	U
VOLATILE ORGANICS						
Acetone	8 - 8000				0.09	
2-Butanone	NL				0.007 J	
SEMIVOLATILE ORGANICS						
Acenaphthene	200			0.32 J		
Acenaphthylene	NL		0.092 J	0.047 J		
Anthracene	4300		0.071 J	0.19 J		0.065 J
Benzo(a)anthracene	0.7		1.1	0.35 J		0.47
Benzo(b)fluoranthene	4		1.4	0.48		0.54
Benzo(k)fluoranthene	4		0.82	0.35 J		0.42
Benzo(g,h,i)perylene	NL		0.55	0.13 J		0.35 J
Benzo(a)pyrene	0.2 - 4		1.0	0.40		0.48
bis(2-Ethylhexyl)phthalate	0.6 - 50					0.051 J
Carbazole	0.2**			0.050 J		0.048 J
Chrysene	1		1.1	0.45		0.51
Dibenzo(a,h)anthracene	11		0.17 J	0.054 J		0.10 J
Dibenzofuran	NL			0.27 J		
Fluoranthene	980		1.8	1.0		1.0
Fluorene	160			0.21 J		
Indeno(1,2,3-cd)pyrene	35		0.68	0.19 J		0.32 J
Phenanthrene	NL		0.18 J	0.92		0.34 J
Pyrene	1400		1.6	0.94		0.99
PRIORITY POLLUTANT METALS						
Arsenic	5 - 100	2.2	3.8 J	2.9 J	2 J	4.1 J
Beryllium	0.2 - 160	2.04	1.1	1.2	0.8	0.87
Cadmium	0.5 - 40	1.32	3.6 J	4.4 J	3 J	2.4 J
Chromium	10 - 400	23.8	18.2	15.9	20.9	13.7
Copper	130	68.2	25.7	31	14.1	23.6
Lead	1.5 - 100	17.94	27.4	13.2	12.3	6.4
Nickel	10 - 2000	38.26	25.1	30.4	9.8	19.3
Silver	100 - 200	NA	1 J	0.83 J	0.89 J	1.2 J
Zinc	42,000	44.6	48.5	71.3	35.1	41.3

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-8, continued
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV2SB0202 04/18/96 5.0' SOIL mg/kg	WV2SB0203 04/18/96 10.0' SOIL mg/kg	WV2SB0301* 04/17/96 1.5' SOIL mg/kg	WV280* 04/17/96 1.5' SOIL mg/kg	WV2SB0302 04/17/96 8.0' SOIL mg/kg	WV2SB0303 04/17/96 19.0' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS				U	U	U	U	
Acetone	8 - 8000		0.14					0.097 J
SEMIVOLATILE ORGANICS				U			U	U
Acenaphthylene	NL					0.057 J		
Anthracene	4300				0.045 J	0.14 J		
Benzo(a)anthracene	0.7		0.044 J		0.52	0.67		
Benzo(b)fluoranthene	4				0.64	0.67		
Benzo(k)fluoranthene	4				0.50	0.60		
Benzo(g,h,i)perylene	NL				0.41	0.40		
Benzo(a)pyrene	0.2 - 4				0.59			
Carbazole	0.2**				0.042 J	0.081 J		
Chrysene	1		0.41 J		0.65	0.69		
Dibenzo(a,h)anthracene	11				0.12 J	0.16 J		
Fluoranthene	980		0.099 J		1.1	1.6		
Fluorene	160					0.057 J		
Indeno(1,2,3-cd)pyrene	35				0.48	0.40		
Phenanthrene	NL		0.070 J		0.22 J	0.84		
Pyrene	1400		0.066 J		1.0	1.2		
PRIORITY POLLUTANT METALS								
Antimony	0.6 - 30	NA	13.8 J					
Arsenic	5 - 100	2.2	3 J	1.4 J	5.5 J	3.8 J	1.4 J	1.8 J
Beryllium	0.2 - 180	2.04	0.78	1.2	1	1.2	1.1	0.5
Cadmium	0.5 - 40	1.32	3.1 J	4.2 J	4.3 J	2.9 J	3.6 J	3 J
Chromium	10 - 400	23.8	17.6	22.2	18.3	13.4	12.9	9.4
Copper	130	68.2	17.1	39.1	20	26.5	29.8	4.9
Lead	1.5 - 100	17.94	21	20.6	31.9	25.4	20.8	7.5
Nickel	10 - 2000	38.26	11.9	43.1	27.5	20.4	27.9	12.5
Zinc	42,000	44.6	37.4	75.7	49.7	54	53	37.6

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

TABLE 6-8, continued
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 2
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SURFACE WATER

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	MCL (1) WATER ug/L	WVWQS (2) Acute/Chronic WATER ug/L	WV2SW05* 04/16/95 1.5' WATER ug/L	WV265* 04/16/95 1.5' WATER ug/L	WV2SW106 04/16/95 1.5' WATER ug/L
PCBS			U	U	U
VOLATILE ORGANICS					U
Acetone	NL	- / -	190 J	240 J	
2-Butanone	NL	- / -	59 J	64 J	
Carbon Disulfide	NL	- / -	0.4 J	0.3 J	
1,2-Dibromoethane	NL	- / -	0.2 J		
4-Methyl-2-pentanone	NL	- / -		0.4 J	
1,1,2-Trichloroethane	5	- / -	20 J		
Toluene	1,000	- / -	0.3 J		
Xylenes, (Total)	10,000	- / -			
SEMIVOLATILE ORGANICS			U	U	U
PRIORITY POLLUTANT METALS					
Cadmium	5	(a)		6.3 J	4.4 J
Chromium	100>	16 / 11 (b)		7.6	
Copper	1300	(a)			7.4 J
Mercury	2	2.4 / -		0.28 J	
Silver	50 (3)	(a)			4.6 J
Zinc	5000 (3)	(a)	35.8 J	44.9 J	

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(2) - WEST VIRGINIA WATER QUALITY STANDARD AS LISTED IN SECTION 5.0, TABLE 5-1
(3) - NON-ENFORCEABLE SECONDARY DW STANDARD BASED ON AESTHETICS (TASTE & ODOR)
(a) - BASED ON HARDNESS
(b) - APPLIES TO HEXAVALENT CHROMIUM
J - RESULT ESTIMATED
NL - NO MAXIMUM CONTAMINANT LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

Very low concentrations of acetone and 2-butanone were detected. Acetone is a common laboratory contaminant and was well below the minimum SSL.

Low concentrations of various SVOCs were detected. Benzo(a)anthracene and chrysene slightly exceed the screening criteria range; concentrations were 1.1 mg/kg (vs 0.7) and 1.1 mg/kg (vs 1.0), respectively. Given the low concentrations detected and variability of environmental samples, neither of these occurrences is considered to be significant.

No metals exceeded the range of screening criteria.

6.4.3.2 Surface Water

Based on the Phase I data two additional surface water samples were collected in order to characterize runoff prior to its entrance into the stream at Site 2. One sample (WV2SW05) was collected from the concrete-lined channel discharging runoff from the Base runway area and the other sample (WV2SW06) was collected from the concrete-lined channel discharging runoff from the POL area. The samples were analyzed for VOCs, SVOCs, PPM, and PCBs. The locations are shown on **Figure 4.3** in Section Four. The analytical results are presented in **Table 6-8.**

As shown, 1,1,2-TCA exceeded the MCL in WV2SW05 (20 vs 5 μg/L), but it was not detected in the duplicate sample. Similarly, cadmium exceeded the MCL in the duplicate sample (6.3 vs 5 μg/L), but was not detected in the sample WV2SW05. Both 1,1,2-TCA and cadmium were estimated results. Given analytical uncertainty and the lack of confirmation in duplicates, these results are suspect, but they suggest possible upstream contaminants in runoff. No WVWQSs were exceeded.

6.4.4 Geologic and Hydrogeologic Investigation Results

The subsurface conditions of Site 2 are characterized by a sequence of fill and debris overlying layers of alluvium, residuum, and bedrock. A geologic profile of Site 2 is

presented as **Figure 6.2.** Debris consisting of concrete blocks and construction debris was noted. One boring, WV2MW01, was an attempt to install a monitoring well, but groundwater was not encountered.

Fill was identified in every boring except WV2MW01. The fill was composed of brown, sandy silt (ML) with little clay and trace rock fragments. Moisture content was damp to moist. Moderate plasticity was exhibited by the material from boring MW2SB01 where higher clay content was also noted. In areas of deeper fill (greater than 5 feet), a distinct clayey gravel layer exists at the alluvium boundary. This layer is 1 to 2 feet in thickness and appears to be reworked and/or compacted material partially composed of the underlying alluvial material.

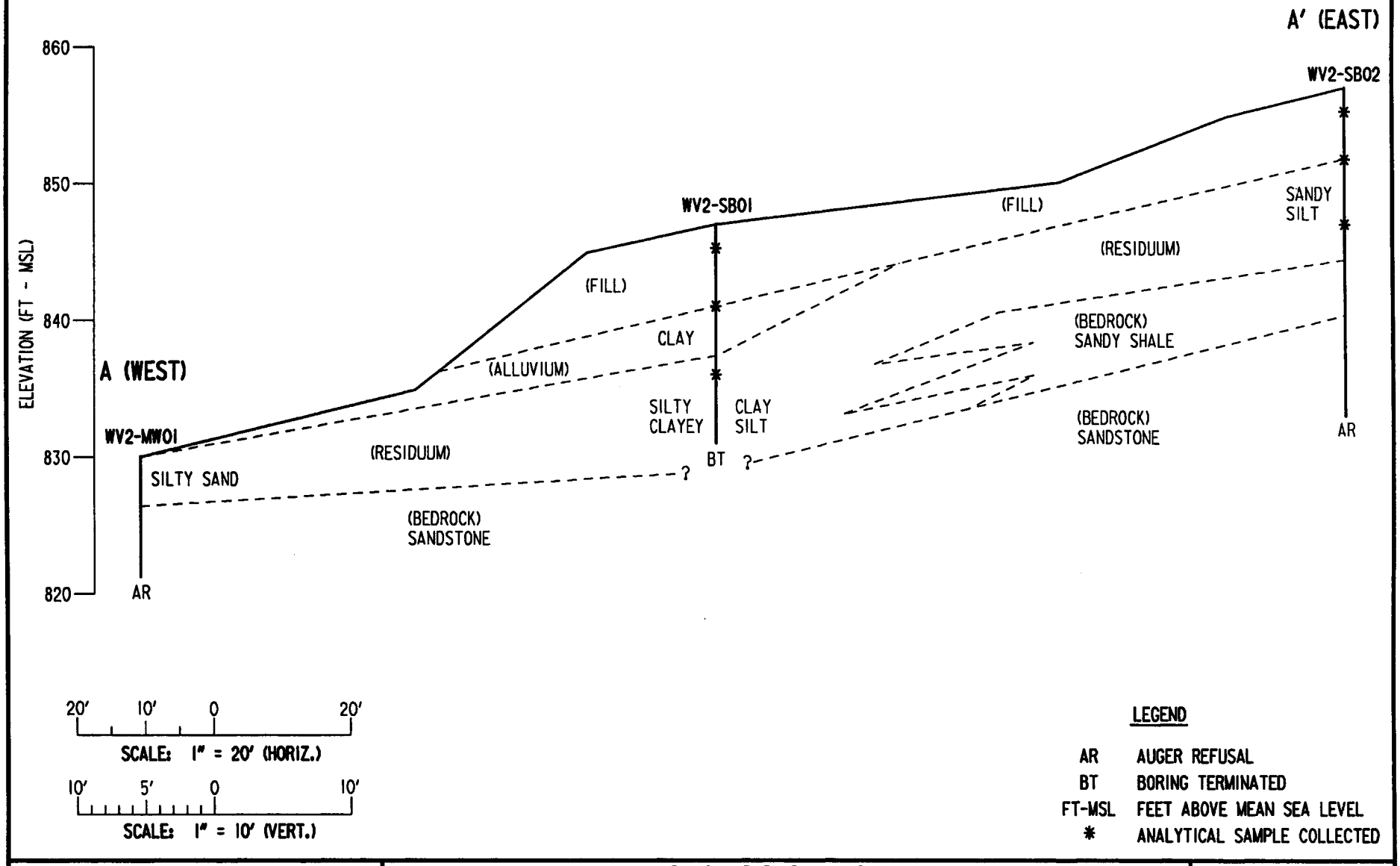
Debris was encountered in boring MW2SB03. The debris consisted of loosely placed construction debris such as concrete, asphalt, brick, or wood. Metal fragments, including concrete reinforcing bar, were noted in the drill cuttings. Soil associated with the debris appeared to be loose infilling of voids in the debris.

A 3 to 6 foot layer of alluvium was noted in borings MW2SB01 and MW2SB03. The material was composed of grey to brown, silty to sandy clay with a trace of gravel. The moisture content was very moist to wet and the material was highly plastic. Wood fragments were also noted.

Residual material was noted overlying the bedrock material on the northside of the site. The residuum consisted of brown silt/sand mixtures. The bedrock encountered was a sequence of thin-bedded sandy shale, grey, fine-grained micaceous sandstone, and a brown, coarse sandstone.

Groundwater was not encountered in any boring at Site 2. Boring WV2MW01 was an attempt to install a monitoring well adjacent to the stream, but groundwater was not encountered. The alluvial layer noted in borings MW2SB01 and MW2SB03 was saturated, but did not produce measurable water for sampling purposes.

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GEOLOGIC PROFILE
SITE 2 - WASTE DISPOSAL SITE NO. 2
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

FIGURE 6.2

METCALF & EDDY

6.5 SITE 3 - FORMER FIRE FIGHTING TRAINING AREA

6.5.1 Site Description

The former FTA is located approximately 100 feet south of Building 126, Munitions Storage (see **Figure 2.2 in Section Two**). The site consisted of a round pit (now backfilled) with dike around the perimeter. The diameter is approximately 50 feet, area about 1,960 square feet, and depth approximately 1 foot. The bottom of the pit was lined with crushed stone/gravel and contained a drain pipe which served to drain the pit. The pipe drained to an oil/water separator which discharged to the east over the nearby cliff. The former location of the oil/water separator, when it was removed, and the position of the drain pipe are not known. The pit did not contain standing water and was usually dry. The former FTA was activated around 1970.

The exercises at Site No. 3 usually consisted of adding water to the pit (to "float" the fuel), applying the fuel, and igniting and extinguishing the fire with water and/or foam. The exercises were conducted about four times a year. Mostly aviation gasoline (AVGAS) and jet fuel (JP-4) were used to fuel the fire; however, other flammable liquids were used, including motor oil and solvents. Roughly 3,000 gallons per year of flammable liquids were reportedly applied to the pit between 1970 and 1979. The former FTA was abandoned around 1979 due to the addition of Taxiway "C".

The PA report noted that there was no evidence of the pit or fuel/oil residual during the PA site visit. Also reported was some environmental stress, namely, poor grass cover. Stressed vegetation was also evident during the kickoff meeting site visit and may be due to the grading and filling operations from nearby Taxiway "C" construction. Thus, either or both the fuel/oil and grading/filling operations may be contributing to the stressed vegetation.

Runoff from Site No. 3 flows overland toward the plateau escarpment and ultimately into Elk Two Mile Creek.

6.5.2 Screening Activity Results

6.5.2.1 Geophysical Survey

EM and GPR surveys were performed as the initial field screening at Site 3. The surveys were performed on an orthogonal grid system with a grid node spacing of 10 feet. The grid, oriented north-south, was measured from the corner fence-post on the northwest side of the site. The grid designation increased both northward and eastward. The only obvious sources of interference observed were the chain-link fence on the north side and the electric fence on the east side; however, there were large pieces of asphalt observed at the surface in several places on the site.

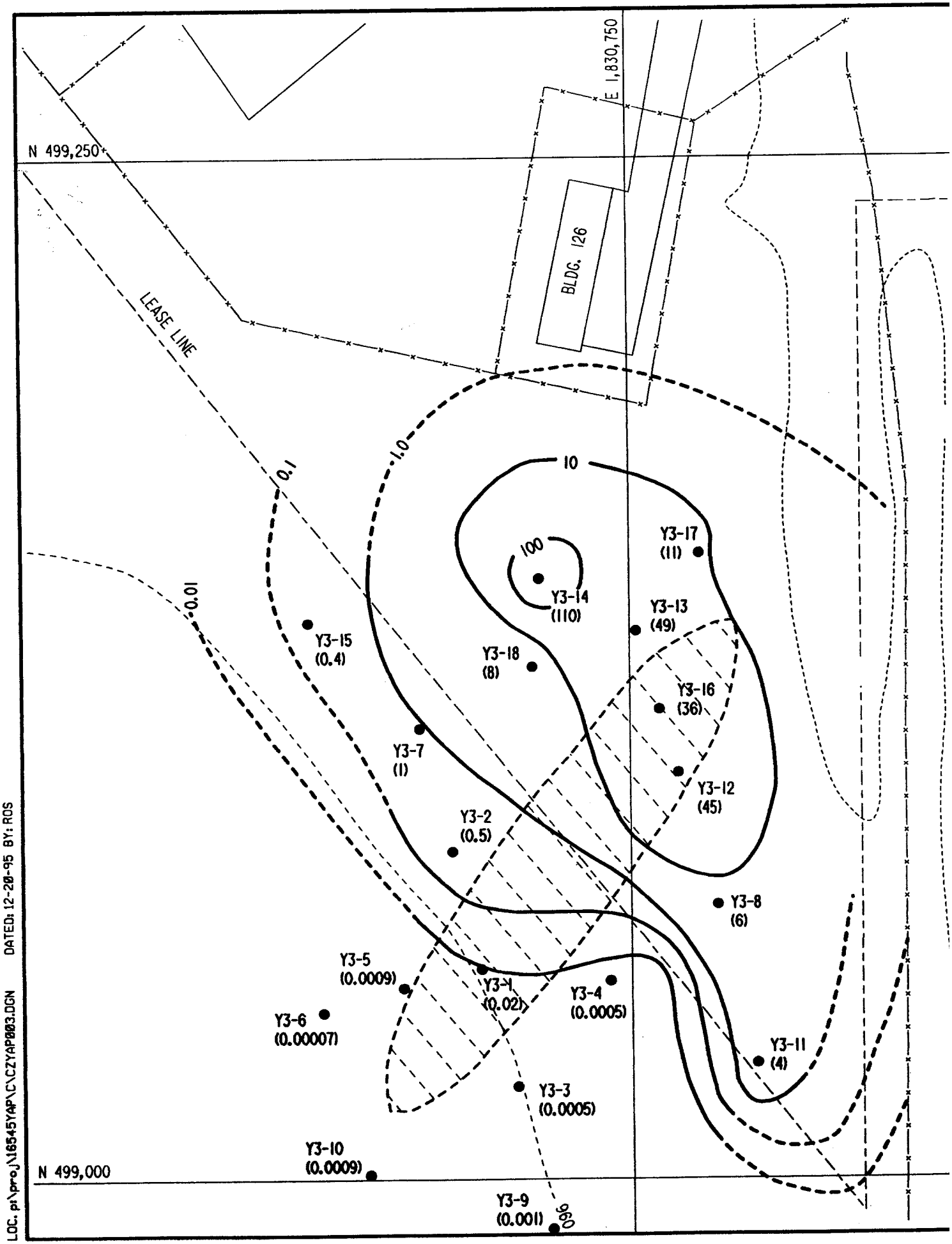
As part of the survey, 258 EM measurements were collected. A large, well defined EM anomaly trending southwest to northeast and approximately 130 feet long and 50 feet wide was observed. The cross-sectional measurements were indicative of a linear conductive feature. The in-phase EM data did not clearly show this anomaly, indicating that it may be due to a change in zone rather than a discrete object. Three small anomalies were indicated by the in-phase EM data. One of these anomalies was adjacent to the large conductivity anomaly and may be related.

Eight GPR lines were run at Site 3. These lines concentrated on the area of the large EM anomaly. Five of the GPR lines were oriented perpendicular to the long axis of the anomaly. The other three GPR lines were run parallel to the long axis. A strong horizon was observed at an estimated depth of 2 feet. This horizon is level, but fairly rough and uneven, similar to the horizon seen at Site 2. A deeper horizon was also observed on some lines at an estimated depth of 4 feet. This deeper horizon may be a multiple reflection off the shallower horizon. No large GPR anomalies were observed which corresponded to the large EM conductivity anomaly. No objects, structures, or fill areas were observed on any GPR lines which could be correlated to other lines or EM anomalies. Additional details regarding the geophysical survey at Site 3 are presented in **Appendix B.**

6.5.2.2 Soil Organic Vapor Survey

A SOV survey was performed at Site 3 after the completion of the geophysical survey. Twenty two samples were collected from 18 locations. The SOV sample locations are presented on **Figure 6.3**. The initial SOV sample locations were selected based on the results of the geophysical survey. These locations were concentrated in the vicinity of the large EM anomaly previously described. One sample location (Y3-1) was profiled at 1-foot intervals to establish a target SOV depth. The target depth selected exhibited the highest SOV concentrations at sample location Y3-1. The target depth was 3 feet below ground surface. The remaining SOV locations were sampled at approximately 3 feet. Each SOV sample was analyzed for BTEX, TCE, PCE, TCA, and TVHC.

Table 6-9 summarizes the target depth, compounds detected, and TCA concentration for each sample location. As shown, benzene, toluene, xylenes, TCA, PCE, and TVHC were detected. **Table 6-10** depicts the frequency of detection, highest concentration detected, and location for each compound. The highest concentrations detected did not correlate with the EM anomaly. The highest concentrations were detected at Y3-14. **Figure 6.3** also depicts the lateral extent of TCA and the approximate location of the EM anomaly.



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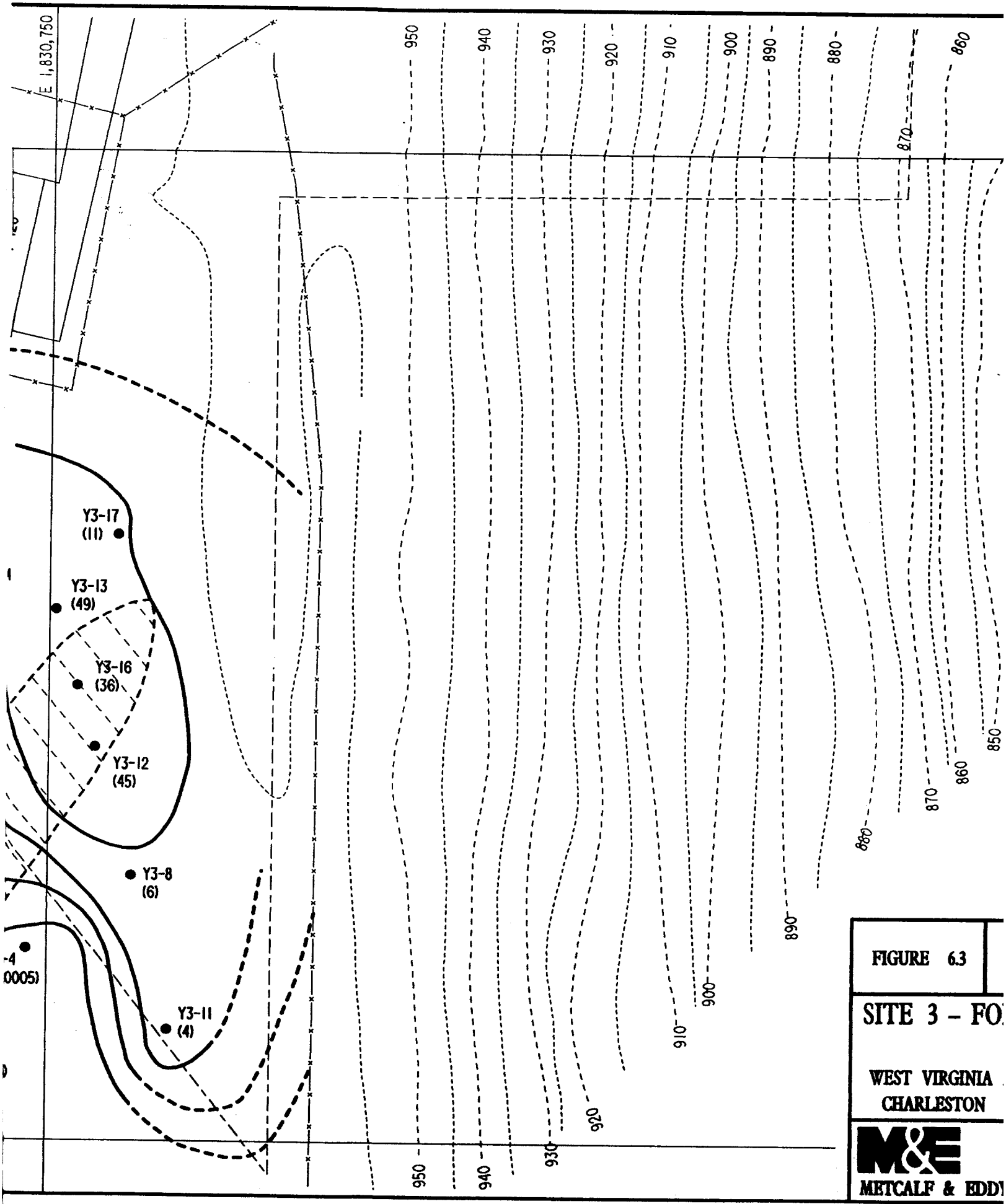


FIGURE 6.3

SITE 3 – FO

WEST VIRGINIA
CHARLESTON

METCALF & EDD

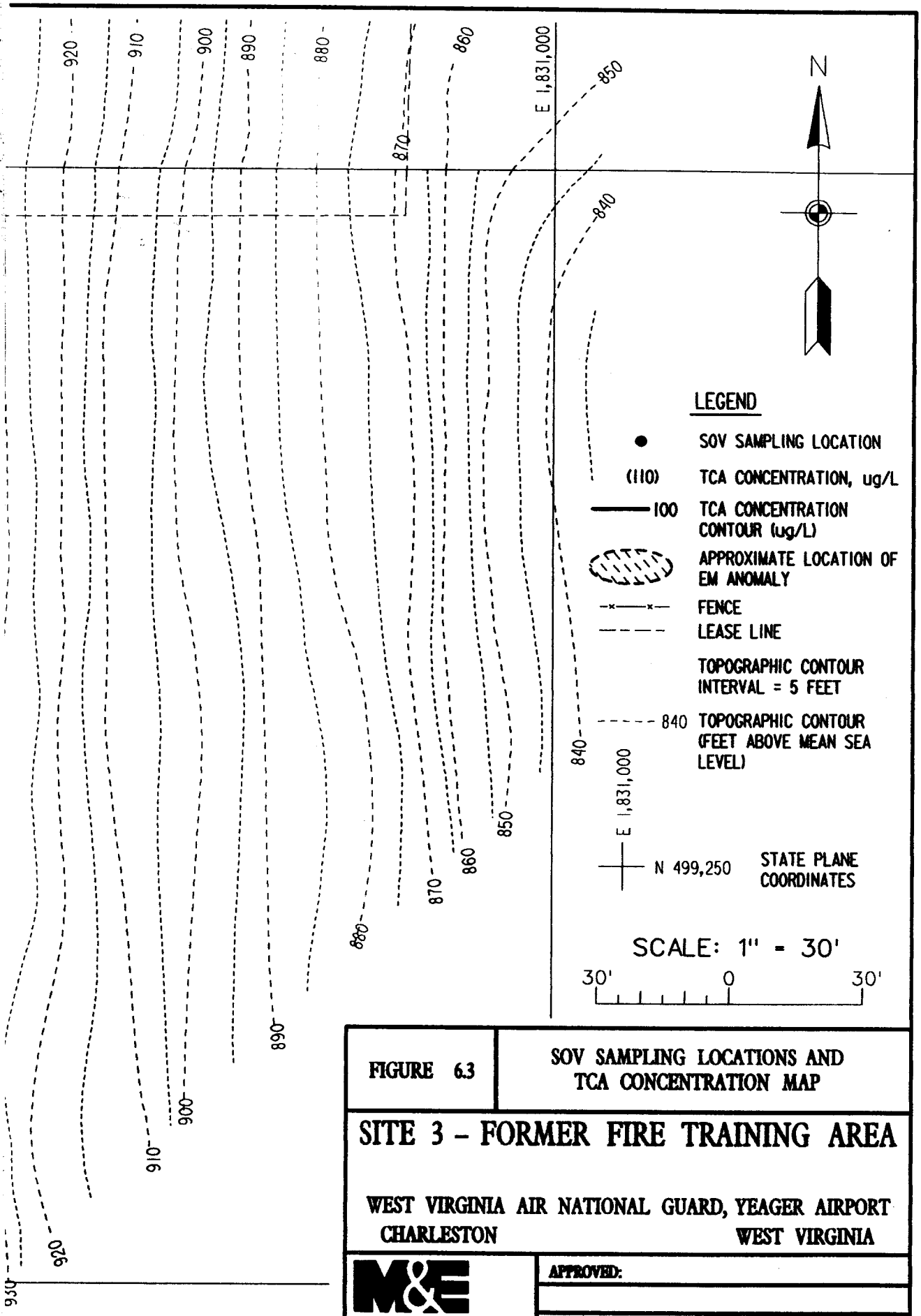


FIGURE 6.3	SOV SAMPLING LOCATIONS AND TCA CONCENTRATION MAP

SITE 3 - FORMER FIRE TRAINING AREA

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY

APPROVED:	
SCALE:	DATE:

TABLE 6-9
SUMMARY OF COMPOUNDS DETECTED
SOV SURVEY
SITE 3

Sample Location	Target Depth (ft)	Compounds Detected	TCA Concentration (μg/L)
Y3-1	3	TCA, benzene, toluene, TVHC	0.02
Y3-2	3	TCA, benzene, toluene, TVHC	0.5
Y3-3	3	TCA, benzene, TVHC	0.0005
Y3-4	3	TCA, PCE, benzene, toluene, TVHC	0.002
Y3-5	1.5	TCA, benzene, toluene, TVHC	0.0009
Y3-6	2.5	Benzene, TVHC	ND
Y3-7	2.5	TCA, PCE, benzene, toluene, TVHC	1.0
Y3-8	3	TCA, PCE, TVHC	6.0
Y3-9	2	TCA, benzene, TVHC	0.001
Y3-10	2.5	TCA, toluene, TVHC	0.0009
Y3-11	3	TCA, TVHC	4.0
Y3-12	3	TCA, PCE, TVHC	45.0
Y3-13	3	TCA, TVHC	49.0
Y3-14	3	TCA, xylenes, TVHC	110.0
Y3-15	3	TCA, benzene, TVHC	0.4
Y3-16	3	TCA, PCE, TVHC	38.0
Y3-17	3	TCA, PCE, TVHC	11.0
Y3-18	3	TCA, PCE, TVHC	8.0

Notes: TVHC = Total volatile organic hydrocarbons, C_4 - C_9 range.
ND = Not Detected

TABLE 6-10
FREQUENCY OF COMPOUNDS DETECTED
SOV SURVEY
SITE 3

Compound	Frequency	Highest Concentration (µg/L)	Location	Depth (ft)
TCA	17 of 18	110.0	Y3-14	3
PCE	7 of 18	0.02	Y3-8	3
Benzene	9 of 18	0.4	Y3-2, Y3-1	3
Toluene	6 of 18	1.0	Y3-1	3
Xylenes	1 of 18	17.0	Y3-14	3
TVHC	18 of 18	210.0	Y3-14	3

6.5.2.3 Hand Auger Borings

Three shallow hand auger borings (WV3HA01-WV3HA03) were drilled at Site 3. The depths of the borings ranged from 2.5 to 3.9 feet below ground surface. Two soil samples were collected from WV3HA02 and WV3HA03; one soil sample was collected from WV3HA01. Each sample was analyzed for VOCs, SVOCs, PPM, and PCBs. The boring locations were selected to assess potential surface water runoff and the oil/water separator discharge point over the cliff east of the suspected former FTA location. The locations are presented on **Figure 4.4** in Section Four. The analytical data is presented in **Table 6-11.** A very low concentration of acetone (0.003 mg/kg) was detected at WV3HA03 which was well below even the minimum screening level. Acetone is also a common laboratory contaminant and it was estimated. SVOCs and PCBs were not detected. No metals exceeded the range of screening values.

TABLE 6-11
SUMMARY OF SCREENING ACTIVITY RESULTS, SITE 3
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV3HA0101 12/20/94 1.2' SOIL mg/kg	WV3HA0201 12/19/94 1.3' SOIL mg/kg	WV3HA0202 12/19/94 3.9' SOIL mg/kg	WV3HA0301* 12/20/94 1.0' SOIL mg/kg	WV3[illegible]* 12/20/94 1.0' SOIL mg/kg	WV3HA0302 12/20/94 3.9' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS			U	U	U		U	U
Acetone	8 - 8000					0.003 J		
SEMIVOLATILE ORGANICS			U	U	U	U	U	U
PRIORITY POLLUTANT METALS								
Arsenic	5 - 100	2.2	6.9 J	15 J	1.2 J	9.9 J	9.2 J	2.7 J
Beryllium	0.2 - 180	2.04	1	1.5	1.5	1.2	1.3	1.1
Cadmium	0.5 - 40	1.32	3.3	2.4 J	5.6 J	5.4	4.6	3.7
Chromium	10 - 400	23.8	16.5	18.4	25.7	15.5 J	20.3	18.7
Copper	130	68.2	28	45.4	32.5	65	66.8	38.9
Lead	1.5 - 100	17.94	13.7 J	36.5	10.8	15.5	12.6 J	18.1 J
Mercury	0.2 - 20	0.22		0.17		0.18	0.13	
Nickel	10 - 2000	38.26	28.6	35.6	33.7	39.4	38.3	28.4
Selenium	3 - 20	NA		0.65 J		0.86 J	0.49 J	
Zinc	42,000	44.6	48.2	40.4	62.5	57.4	56.7	50.5

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

6.5.3 Confirmation and Delineation Activity Results

6.5.3.1 Soil Borings

Three soil borings (WV3SB01-WV3SB03) were drilled at Site 3. The depths of the borings ranged from 22.5 to 31 feet below ground surface. Three samples were collected from each boring. Each sample was analyzed for VOCs, SVOCs, PPM, and PCBs. Since the results of the geophysical survey and SOV survey did not correlate well and soils had been areally spread during pit removal, the borings were drilled in the suspected location of the former FTA. The soil boring locations are presented on **Figure 4.4** in Section Four. The analytical data is presented in **Table 6-12.**

Very low concentrations of VOCs, acetone, toluene, 1,1-dichloroethane, ethylbenzene, and xylenes were detected, all orders-of-magnitude below screening levels. These compounds were encountered within the upper 6 feet and decreased to below the detection limit at boring termination. No VOCs detections are considered to be significant.

Very low concentrations of SVOCs were detected at Site 3. The SVOCs detected are summarized in Table 6-14. Chrysene exceeded its associated SSL (1.6 vs 1 mg/kg) and benzo(a)anthracene exceeded its SSL (1.4 vs 0.7 mg/kg). The magnitude and frequency of this one occurrence is not considered to be significant. SVOCs were encountered in the upper 6 feet and generally decreased to below detection limits at boring termination.

No metals exceeded its SSL.

6.5.4 Geologic and Hydrogeologic Investigation Results

Subsurface conditions at Site 3 are characterized by deep fill with highly variable composition and consistency. Voids, layers of rock fragments, and soft zones were noted across the site. Intervals of confined water present in void spaces, were noted in borings WV3SB01 and WB3SB03. Wet conditions were not noted at boring WB3-SB02. Upon

TABLE 6-12
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 3
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV3SB0101 4/12/96 1.5' SOIL mg/kg	WV3SB0102 04/12/96 6.0' SOIL mg/kg	WV3SB0103 04/13/96 21.0' SOIL mg/kg	WV3SB0201 04/13/96 1.5' SOIL mg/kg	WV3SB0202 04/13/96 6.0' SOIL mg/kg	WV3SB0203 04/13/96 31.0' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS				U	U	U		U
Acetone	8 - 8000		0.005 J				0.008 J	
Toluene	5 - 20,000		0.001 J					U
SEMIVOLATILE ORGANICS								
Acenaphthene	200		0.042 J				0.083 J	
Anthracene	4300		0.13 J			0.054 J	0.13 J	
Benzo(a)anthracene	0.7		1.4	0.27 J		0.61	0.97	
Benzo(b)fluoranthene	4		1.7	0.35 J		0.83	1.1	
Benzo(k)fluoranthene	4		1.1	0.24 J		0.58	0.64	
Benzo(a)pyrene	4		1.6	0.39		0.84	0.97	
Benzo(g,h,i)perylene	NL		0.74	0.27 J		0.53	0.33 J	
Carbazole	0.2 **		0.053 J			0.038 J	0.09 J	
Chrysene	1		1.6	0.33 J		0.71	1	
Dibenz(a,h)anthracene	11		0.23 J	0.075 J		0.16 J	0.13 J	
Dibenzofuran	NL		0.036 J				0.051 J	
bis(2-Ethylhexyl)phthalate	0.6 - 50				0.20 J		0.13 J	
Fluoranthene	980		2.5	0.50		1.2	2.3	
Fluorene	160		0.037 J				0.077 J	
Indeno(1,2,3-cd)pyrene	35		0.64	0.20 J		0.43	0.35 J	
2-Methylphthalene	NL		0.047 J				0.079 J	
Phenanthrene	NL		0.56	0.10 J		0.28 J	0.73	
Pyrene	1400		2.5	0.56		0.99	2.0	
PRIORITY POLLUTANT METALS								
Arsenic	5 - 100	2.2	3	7.1	3.3	6.5	2.7	2.3 J
Beryllium	0.2 - 180	2.04	3.2 J	1.6 J	0.94 J	2.5 J	1.5 J	0.98 J
Chromium	10 - 400	23.8	8.8	22.4	10.9	12.9	14.3	16.3
Copper	130	68.2	9.4	15.9	16.4	12.7	11.4	1.3
Lead	1.5 - 100	17.94	15.4 J	15.1 J	15.5 J	12.2 J	13 J	11.9 J
Nickel	10 - 2000	38.26	10.2	31.6	21.5	14.3	17.6	19.8
Selenium	3 - 20	NA	1 J			1.2 J		
Zinc	42,000	44.6	19.1	46.3	38	25.1	30.8	59.2

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-12, continued
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 3
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV3SB0301* 04/14/96 21.6' SOIL mg/kg	WV3SB* 04/14/96 1.8' SOIL mg/kg	WV3SB0302 04/14/96 8.0' SOIL mg/kg	WV3SB0303 04/14/96 21.0' SOIL mg/kg
PCBS			U	U	U	U
VOLATILE ORGANICS			U			U
Acetone	8 - 8000				0.020	
1,1-Dichloroethane	11				0.002 J	
Ethylbenzene	5 - 4000			0.002 J		
Toluene	5 - 20,000			0.001 J	0.001 J	
Xylenes	74 - 200,000			0.003 J		
SEMIVOLATILE ORGANICS					U	U
Benzo(a)anthracene	0.7		0.26 J	0.29 J		
Benzo(b)fluoranthene	4		0.36 J	0.37 J		
Benzo(k)fluoranthene	4		0.25 J	0.24 J		
Benzo(g,h,i)perylene	NL		0.29 J	0.25 J		
Benzo(a)pyrene	4		0.36 J	0.34 J		
Chrysene	1		0.31 J	0.32 J		
Dibenz(a,h)anthracene	11		0.09 J	0.082 J		
bis(2-Ethylhexyl)phthalate	0.6 - 50			2.6		
Fluoranthene	980		0.56	0.72		
Indeno(1,2,3-cd)pyrene	35		0.23 J	0.23 J		
Phenanthrene	NL			0.20 J		
Pyrene	1400		0.48	0.55		
PRIORITY POLLUTANT METALS						
Arsenic	5 - 100	2.2	5.2	3.5	7	3.4
Beryllium	0.2 - 180	2.04	1.5 J	1.3 J	1.1 J	1
Cadmium	0.5 - 40	1.32			0.71 J	
Chromium	10 - 400	23.8	21.2	14.2	22.6	12.9
Copper	130	68.2	28.4	22.9	25.1	39.9
Lead	1.5 - 100	17.94	17.4 J	14.3 J	14.3	15.1
Mercury	0.2 - 20	0.22		0.12		
Nickel	10 - 2000	38.26	29.4	24.8	31.5	25.2
Selenium	3 - 20	NA	0.47 J			0.47
Zinc	42,000	44.6	50.9	40.7	52.5	55.4

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS

reaching termination depth, the boreholes were kept open to gauge potential groundwater flow into the boring. The borings did not produce a measurable quantity of water for sampling purposes and were abandoned.

The fill was composed of yellow-brown, clayey to fine sandy silt. Moisture content in borings WV3SB01 and WB3SB03 increased from moist to wet with depth; wet conditions were encountered below 20 feet. The fill was dry to moist in boring WV3SB02. Plasticity varied from low plastic to slightly plastic within specific zones. Consistency of the material was generally stiff with alternating layers of soft material. Layers of thinly bedded shale fragments were noted in both borings. A geologic profile of Site 3 is presented as **Figure 6.4.**

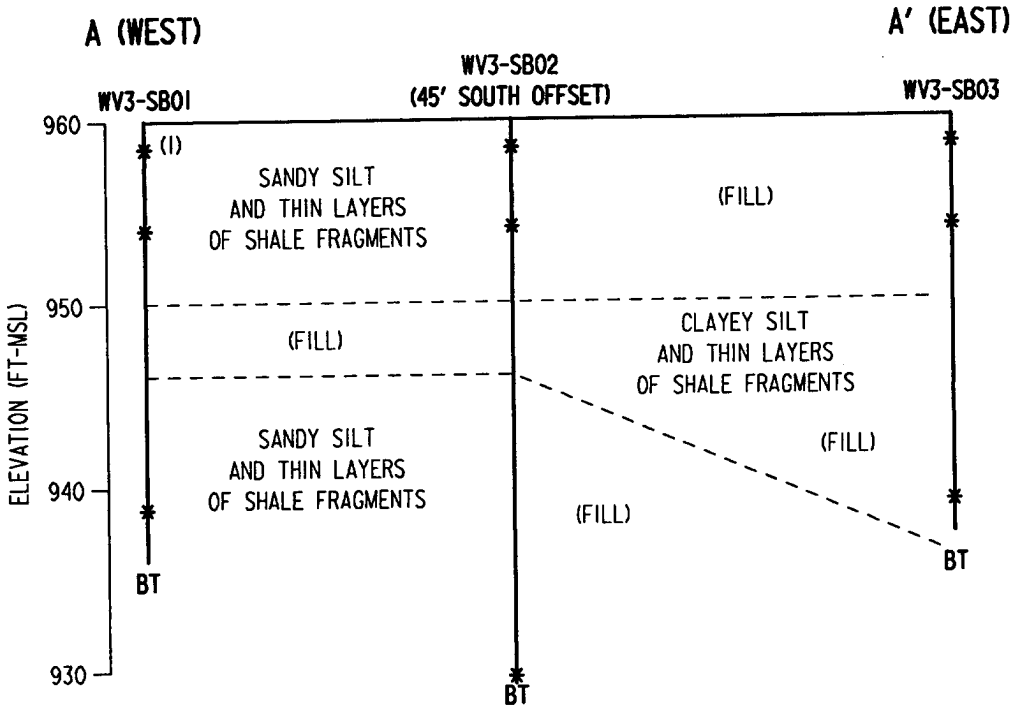
6.6 SITE 4 - PAST CHEMICAL DISPOSAL AT ENGINE TEST STAND

6.6.1 Site Description

Disposal of approximately 100 gallons of a water-diluted solvent (composition unknown) occurred in 1981, approximately 50 feet northeast of the Inspection and Repair (Engine) Test Shelter, Building 125 (see **Figure 2.2 in Section Two**). The solvent was dumped from two 55-gallon drums directly onto the ground, onto a grassy slope between Commando Road and the paved area at Building 125. Reportedly all of the solvent soaked into the ground. The size of the affected area is unknown, but is not expected to be greater than about 200 square feet.

The PA reported that there have been at least four types of solvents used at the Base. The liquid solvent dumped at Site No. 4 may have been one of the following solutions: (1) Stoddard solvent; (2) 70 percent Stoddard solvent, 25 percent dichloroethane, 5 percent tetrachloroethylene; (3) 30 percent perchloroethylene, 19 percent methylenechloride, 51 percent aliphatic petroleum distillate; or (4) paraffins and chlorinated hydrocarbons.

Runoff from the Site No. 4 area flows into a steep ravine containing the same stream channel that drains Site 2 and receives most of the Base runoff. The sides of the ravine have an



10' 5' 0 10'

SCALE: 1" = 10' (HORIZ.)

10' 5' 0 10'

SCALE: 1" = 10' (VERT.)

LEGEND

BT	BORING TERMINATED
FT-MSL	FEET ABOVE MEAN SEA LEVEL
*	ANALYTICAL SAMPLE COLLECTED
(1)	CHRYSENE (1.6 mg/Kg) EXCEEDED ARAR BENZO (a) ANTHRACENE (1.6 mg/Kg) EXCEEDED ARAR

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METCALF & EDDY

GEOLOGIC PROFILE
SITE 3 - FORMER FIRE TRAINING AREA
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

FIGURE 6.4

DATE:
SCALE:
APPROVED:

approximate 35 percent slope and are partly formed by fill material from airport construction, including soil, gravel, and concrete and asphalt rubble. Construction of a temporary access road from Site No. 4, which runs obliquely down the slope to the new POL facility, caused additional fill and disturbance of the site including slope failure.

6.6.2 Screening Activity Results

6.6.2.1 Soil Organic Vapor Survey

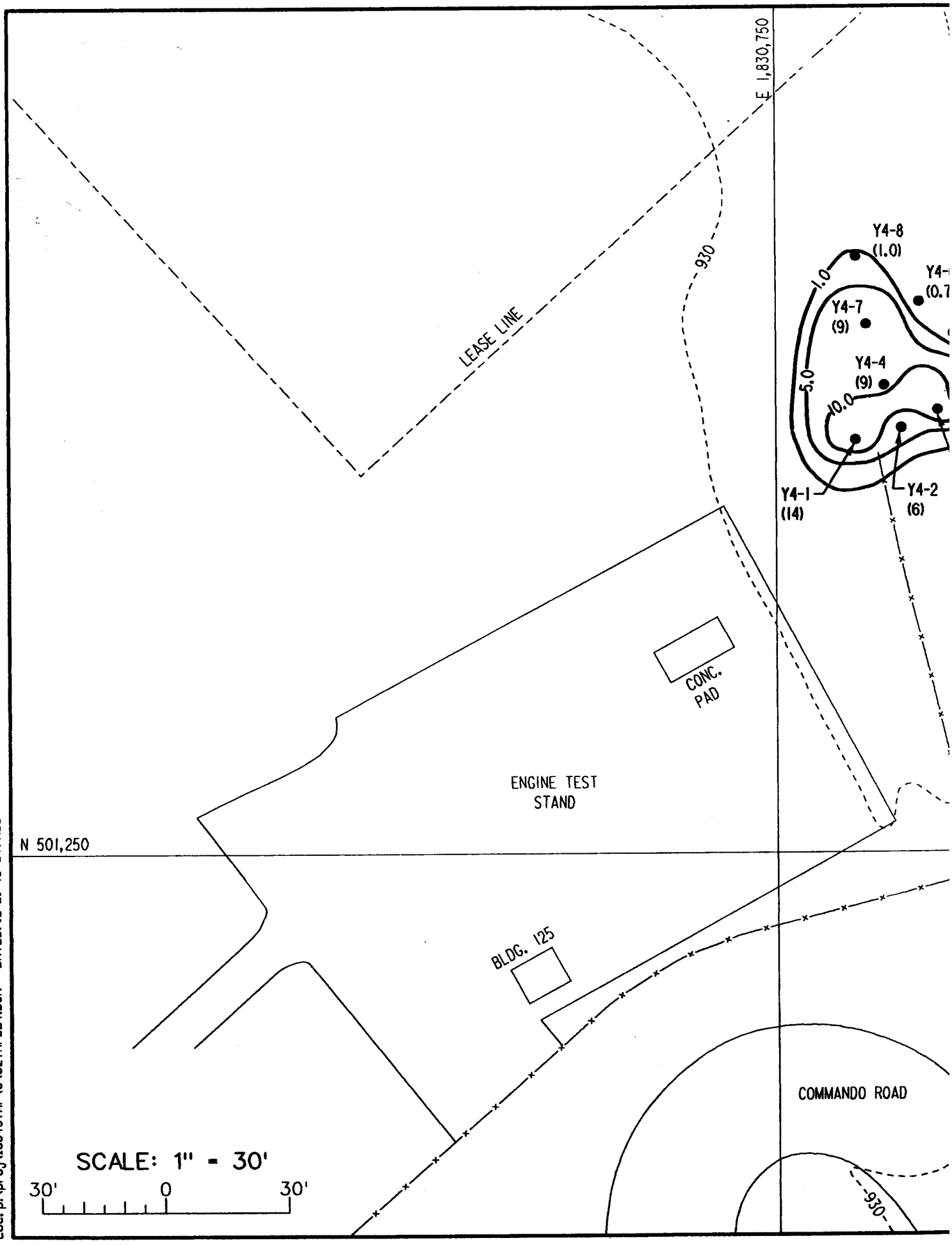
A SOV survey was performed at Site 4. Thirteen samples were collected from eight locations. The SOV sample locations are presented on **Figure 6.5**. The sample locations were selected to provide representative coverage in the suspected release area. One sample was profiled at 1-foot intervals to a depth of 10 feet to establish a target SOV depth. The target depth selected exhibited the highest SOV concentrations at sample location Y4-1. The target depth was the 3- to 6-foot interval. Each SOV sample was analyzed for BTEX, TCE, PCE, TCA, and TVHC.

Table 6-13 summarizes the target depth, compounds detected, and total organic concentration for each sample location. As shown, benzene, TCA, TCE, PCE, and TVHC were detected. **Table 6-14** depicts the frequency of detection, highest concentration detected, and location for each compound. The highest concentrations detected correspond to the reported area of the solvent release. Elevated concentrations of TCE and PCE were detected to a depth of 10 feet at Y4-1. Figure 6.5 also depicts the lateral extent of TCE.

6.6.3 Confirmation and Delineation Activity Results

6.6.3.1 Soil Borings

Three soil borings (WV4SB01-WV4SB03) were drilled at Site 4. The depths ranged from 15 to 30 feet below ground surface. Three samples were collected from each boring, with the exception of WV4SB01, where two samples were collected. Each sample was analyzed



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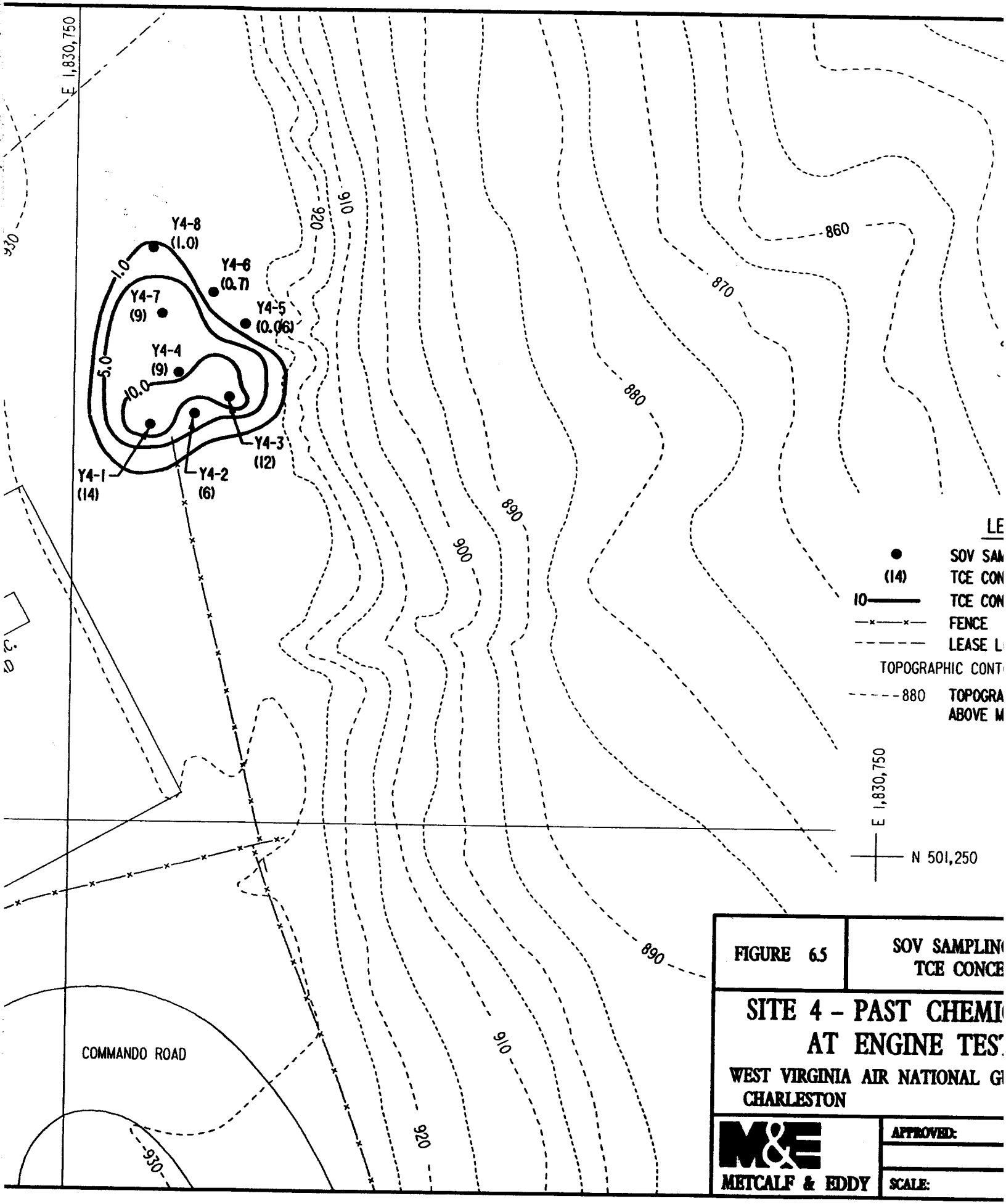


FIGURE 6.5

SOV SAMPLIN
TCE CONCE

SITE 4 – PAST CHEMI
AT ENGINE TES

WEST VIRGINIA AIR NATIONAL G
CHARLESTON

M&E
METCALF & EDDY

APPROVED:

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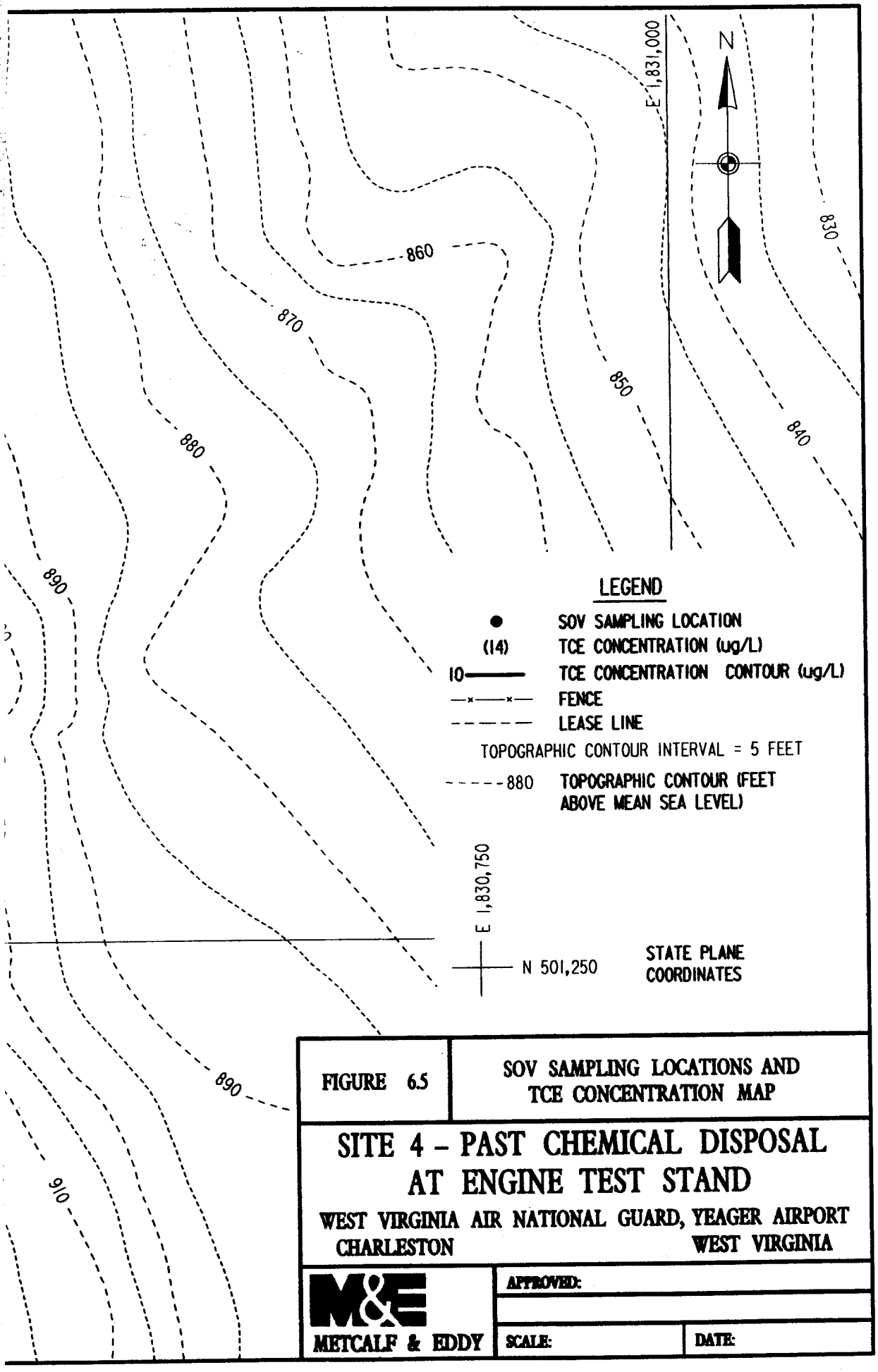


FIGURE 6.5	SOV SAMPLING LOCATIONS AND TCE CONCENTRATION MAP

SITE 4 – PAST CHEMICAL DISPOSAL AT ENGINE TEST STAND

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY	APPROVED:	
	SCALE:	DATE:

TABLE 6-13
SUMMARY OF COMPOUNDS DETECTED
SOV SURVEY
SITE 4

Sample Location	Target Depth (ft)	Compounds Detected	Total Organic Concentration (µg/L)
Y4-1	4	TCA, TCE, PCE, TVHC	23.0008
Y4-2	3	TCE, PCE, TVHC	8.80
Y4-3	6	TCA, TCE, PCE, TVHC	28.03
Y4-4	4	TCE, PCE, TVHC	12.80
Y4-5	3	TCA, TCE, PCE, TVHC	0.266
Y4-6	5	TCA, TCE, PCE, TVHC	0.812
Y4-7	4	TCA, TCE, PCE, benzene, TVHC	12.2008
Y4-8	4	TCA, TCE, PCE, TVHC	1.602

Notes: TVHC = Total Volatile Organic Hydrocarbons, C_4 - C_9 range.

TABLE 6-14
FREQUENCY OF COMPOUNDS DETECTED
SOV SURVEY
SITE 4

Compound	Frequency	Highest Concentration (µg/L	Location	Depth (ft)
TCA	6 of 8	0.03	Y4-3	6
TCE	8 of 8	14.0	Y4-1	4
PCE	8 of 8	6.0	Y4-1	4
Benzene	1 of 8	0.2	Y4-7	4
TVHC	8 of 8	13.0	Y4-3	6

for VOCs and SVOCs. The locations of the borings were selected based on the SOV survey. The locations are presented on **Figure 4.5** in Section Four. The analytical data is presented in **Table 6-15**.

As shown, very low concentrations of several VOCs - acetone, 2-butanone, 1,2-dichloroethene, tetrachloroethene, toluene, and trichloroethene were detected. None of the concentrations exceeded their minimum SSL. SVOCs were not detected.

6.6.4 Geologic and Hydrogeologic Investigation Results

Subsurface conditions at Site 4 are characterized by deep fill with large rock fragments and blocks of soil at the fill base. The fill depth was approximately 25 to 30 feet. The borings were placed to confirm screening results, and to provide limited areal representation of the fill conditions at the site. Groundwater was not encountered in any of the borings. A geologic profile of Site 4 is presented as **Figure 6.6**.

One boring, WV4SB03, detected residual material at a 25-foot depth. The other borings, WB4SB01 and WB4SB02, terminated in fill at 15 and 30 feet, respectively. The fill was composed of brown, sandy silt with trace to little clay, and varying amounts of rock fragments. Moisture content decreased from moist to dry with depth. Plasticity was low. Consistency increased from medium to dense with depth. The base of the fill graded into the underlying residual material without an apparent contact.

6.7 SITE 5 - LIQUID DISPOSAL SITE

6.7.1 Site Description

The former gravel parking area, located north of the Aircraft Engine Inspection and Repair Shop [Building 109 (**see Figure 2.2 in Section Two**]), received approximately 100 gallons of

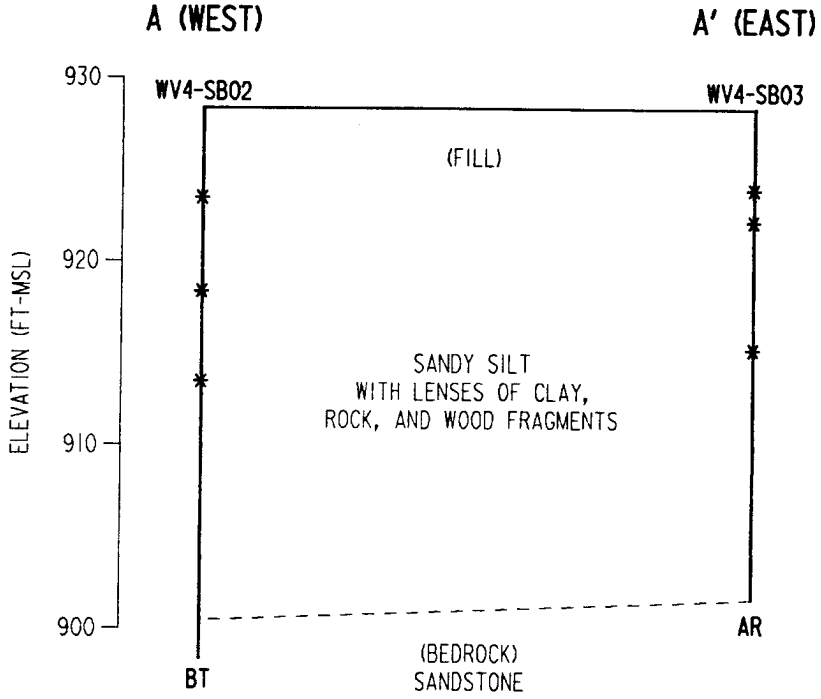
TABLE 6-15
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 4
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID	RANGE OF	WV4SB0101	WV4SB0102	WV4SB0201	WV4SB0202	WV4SB0203
SAMPLE DATE	SSL (1)	04/14/95	04/14/95	04/14/95	04/14/95	04/14/95
SAMPLE DEPTH		6.0'	15.0'	6.0'	10.0'	15.0'
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS			NA			
Acetone	8 - 8000	0.015				0.079
2-Butanone	NL					0.012
1,2-Dichloroethenes (Total)	0.5 - 17			0.001 J	0.004 J	0.009 J
Tetrachloroethene	0.4 - 14				0.002 J	
Toluene	5 - 20,000				0.001 J	0.003 J
Trichloroethene	0.02 - 60			0.008 J	0.007 J	
SEMIVOLATILE ORGANICS		U	U	U	U	U

SAMPLE ID	RANGE OF	WV4SB0301*	WV459*	WV4SB0302	WV4SB0303
SAMPLE DATE	SSL (1)	04/14/95	04/14/95	04/14/95	04/14/95
SAMPLE DEPTH		4.5'	4.5'	8.0'	13.0'
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS			NA		
Acetone	8 - 8000	0.021		0.014	0.006 J
2-Butanone	NL				
1,2-Dichloroethenes (Total)	0.5 - 17				0.002 J
Toluene	5 - 20,000			0.001 J	0.004 J
Trichloroethene	0.02 - 60				0.016
SEMIVOLATILE ORGANICS		U	U	U	U

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NA - NOT AVAILABLE
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS



5′ 2.5′ 0 5′

SCALE: 1″ = 5′ (HORIZ.)

10′ 5′ 0 10′

SCALE: 1″ = 10′ (VERT.)

LEGEND

AR	AUGER REFUSAL
BT	BORING TERMINATED
FT-MSL	FEET ABOVE MEAN SEA LEVEL
*	ANALYTICAL SAMPLE COLLECTED

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GEOLOGIC PROFILE - SITE 4 - PAST CHEM. DISPOSAL AT ENGINE TEST STAND

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

FIGURE 6.6

DATE:
SCALE:
APPROVED:

LOC: p:\proj\16545YAB\C\CXYAP003.DGN DATED: 12-14-95 BY: ROS

liquid waste for dust control on an annual basis. The disposal reportedly consisted of gasoline and oils applied from the 1950s to approximately 1974. The area also contained a septic tank and associated leach lines which may have received periodic liquid waste disposal.

The septic tank and leach lines were excavated in 1983 during construction of the current structure (Building 109). The excavated material was placed at Site No. 2, and new fill was emplaced. The footprint of Building 109 covers the former septic tank area and approximately half of the former leach field. The remainder of the leach field was located south of the current structures.

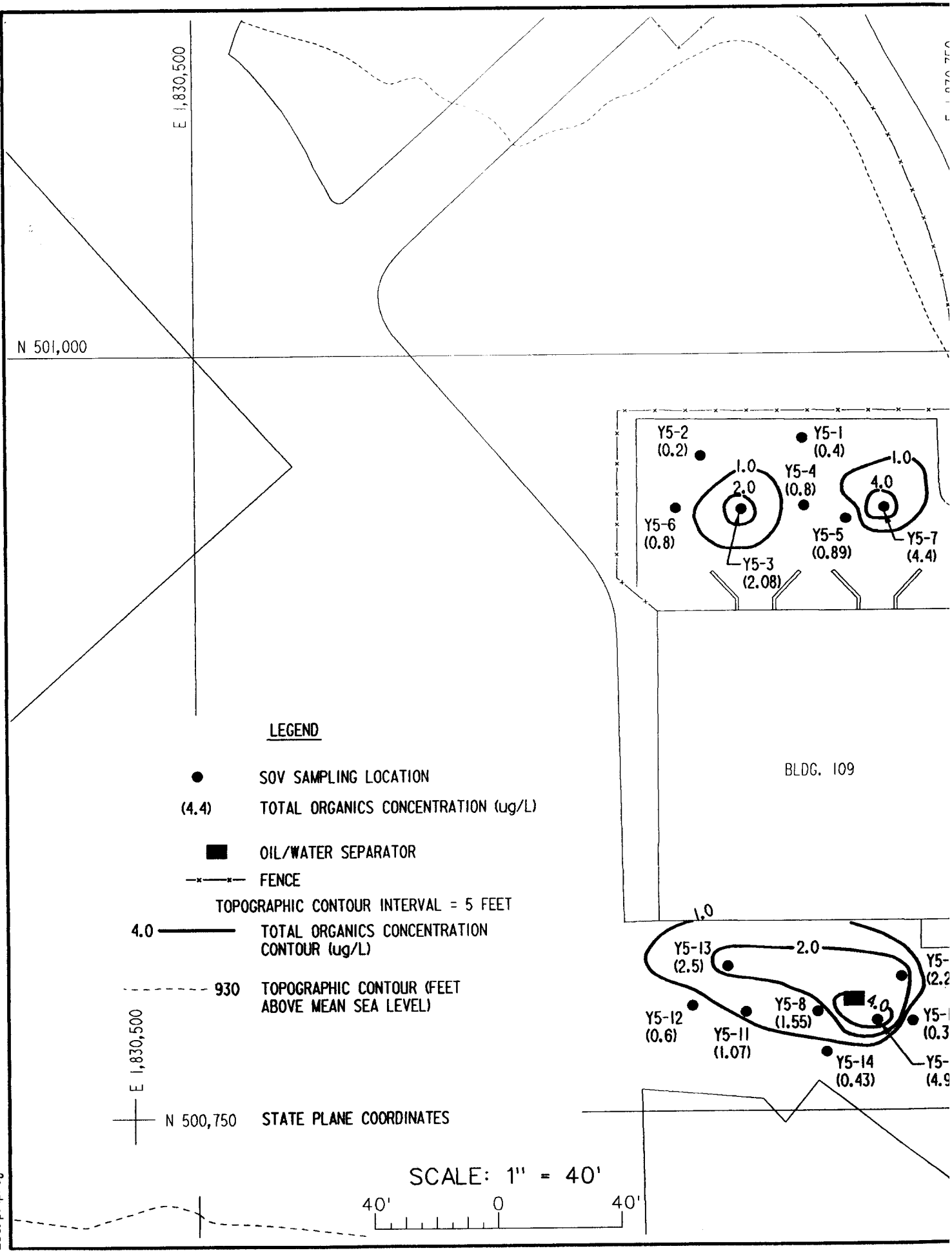
Runoff from Site No. 5 is directed northward via storm drains. The storm drains discharge into a steep ravine on the north side of Commando Road and join storm drain discharges from the POL area and Site No. 2. (See Figure 3.7, Section Three)

6.7.2 Screening Activity Results

6.7.2.1 Soil Organic Vapor Survey

A SOV survey was performed at Site 5. A total of 21 samples were collected at 15 locations. Seven samples were collected north of Building 109 and eight samples were collected south of Building 109. The SOV sample locations are presented on **Figure 6.7.** The sample locations were selected to provide representative coverage in the suspected release area.

One location was profiled at 1-foot intervals to 10 feet to establish a target SOV depth. The target depth selected exhibited the highest SOV concentrations at sample location Y5-8. The target depth selected was approximately 8 feet. The variability of target depths at the remaining locations reflected the inability of the probe to penetrate the subsurface. Each SOV sample was analyzed for BTEX, TCE, PCE, TCA, and TVHC.


E 1,830,500
N 501,000
Y5-2
(0.2)
Y5-1
(0.4)
1.0
2.0
Y5-4
(0.8)
1.0
4.0
Y5-6
(0.8)
Y5-5
(0.89)
Y5-7
(4.4)
Y5-3
(2.08)
BLDG. 109
1.0
Y5-13
(2.5)
2.0
Y5-12
(0.6)
Y5-11
(1.07)
Y5-8
(1.55)
4.0
Y5-14
(0.43)
LEGEND
SOV SAMPLING LOCATION
(4.4) TOTAL ORGANICS CONCENTRATION (ug/L)
OIL/WATER SEPARATOR
FENCE
TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
4.0 TOTAL ORGANICS CONCENTRATION CONTOUR (ug/L)
930 TOPOGRAPHIC CONTOUR (FEET ABOVE MEAN SEA LEVEL)
E 1,830,500
N 500,750 STATE PLANE COORDINATES
SCALE: 1" = 40'
40' 0 40'
LOC. p:\proj\16545YAP\C\CZYAP005.DGN DATED: 12-21-95 BY: ROS

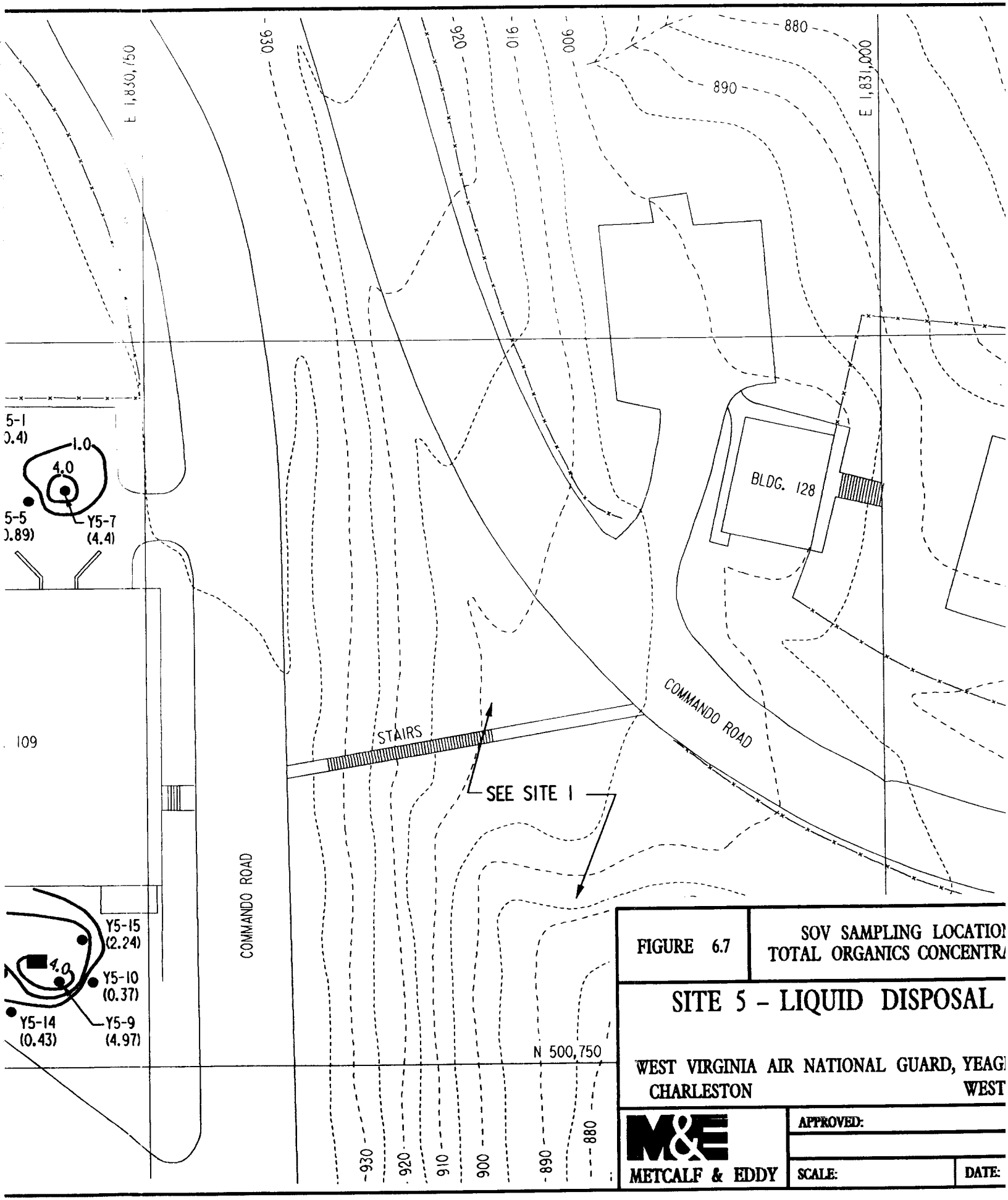


FIGURE 6.7 SOV SAMPLING LOCATION
TOTAL ORGANICS CONCENTRA

SITE 5 - LIQUID DISPOSAL

WEST VIRGINIA AIR NATIONAL GUARD, YEAG
CHARLESTON WEST

METCALF & EDDY

APPROVED:

SCALE:

DATE:

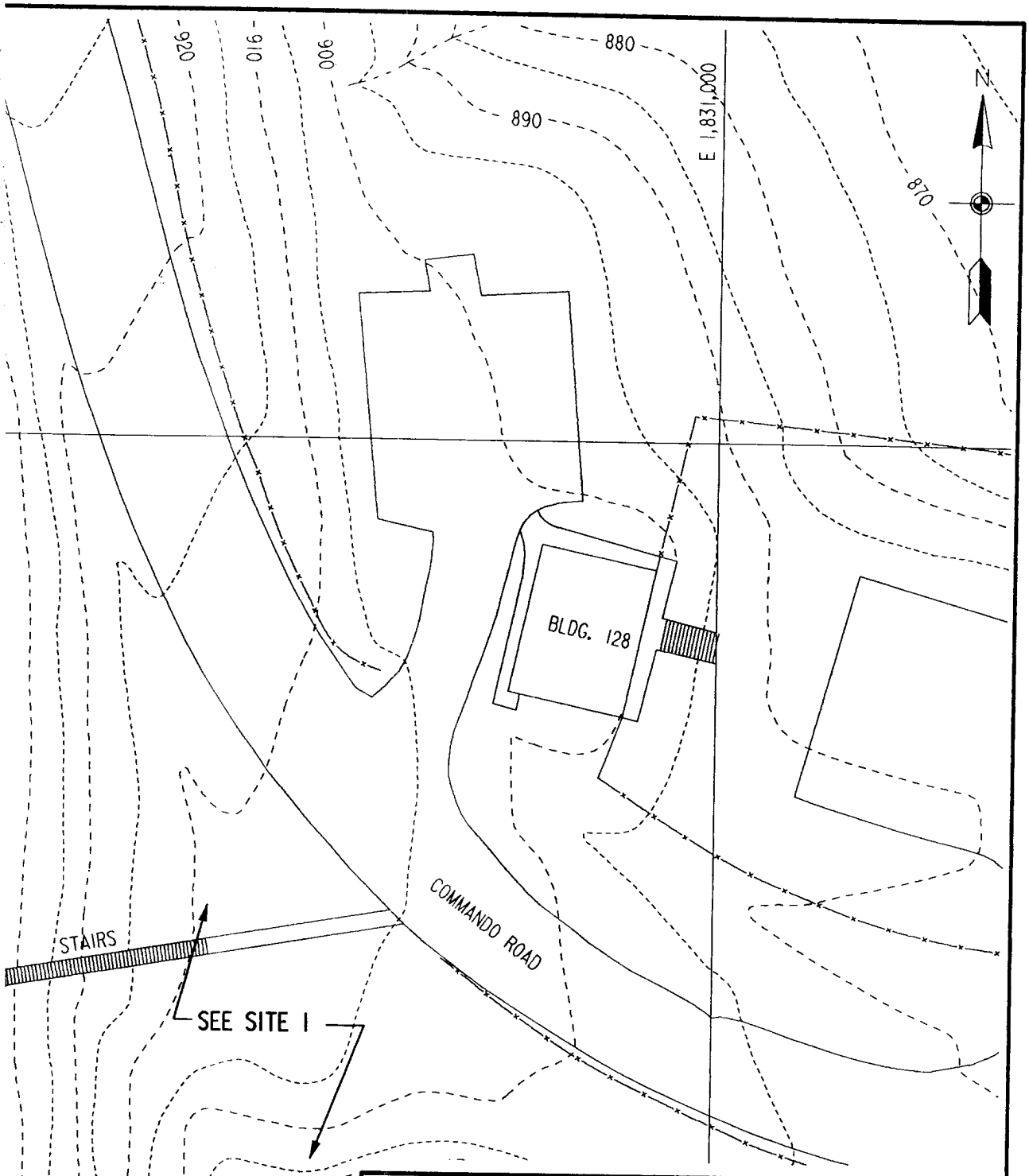


FIGURE 6.7	SOV SAMPLING LOCATIONS AND TOTAL ORGANICS CONCENTRATION MAP

SITE 5 - LIQUID DISPOSAL SITE

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY	APPROVED:	
	SCALE:	DATE:

Table 6-16 summarizes the target depth, compounds detected, and total organic concentration for each sample location. As shown, benzene, toluene, TCA, TCE, PCE, and TVHC were detected. **Table 6-17** depicts the frequency of detection, highest concentration detected, and location for each compound.

TABLE 6-16
SUMMARY OF COMPOUNDS DETECTED
SOV SURVEY - SITE 5

Sample Location	Target Depth (ft)	Compounds Detected	Total Organic Concentration (μg/L)
Y5-1	5	TCA, TCE, PCE, benzene, toluene, TVHC	0.4088
Y5-2	2	TCA, TCE, PCE, benzene, TVHC	0.23021
Y5-3	5	TCA, TCE, PCE, benzene, toluene, TVHC	2.0803
Y5-4	2	TCA, TCE, benzene, toluene, TVHC	0.8027
Y5-5	5	TCA, TCE, PCE, benzene, toluene, TVHGC	0.892
Y5-6	2	TCA, TCE, PCE, toluene, TVHC	0.8012
Y5-7	7.5	TCA, TCE, PCE, benzene, TVHC	4.4005
Y5-8	6.5	TCA, TCE, PCE, benzene, TVHC	1.55
Y5-9	8.5	TCA, TCE, PCE, TVHC	4.977
Y5-10	8	TCA, TCE, PCE, benzene, TVHC	0.37
Y5-11	8	TCA, TCE, PCE, benzene, TVHC	1.074
Y5-12	8	TCA, benzene, TVHC	0.6007
Y5-13	8	TCA, TCE, PCE, benzene, TVHC	2.506
Y5-14	8	TCA, TCE, PCE, benzene, TVHC	0.433
Y5-15	8	TCA, TCE, PCE	2.24

Note: TVHC = Total Volatile Organic Hydrocarbons C_4 - C_9 range.

TABLE 6-17 FREQUENCY OF COMPOUNDS DETECTED SOV SURVEY - SITE 5				
Compound	**Frequency**	**Highest Concentration (µg/L)**	**Location**	**Depth (ft)**
TCA	15 of 15	0.04	Y5-15	8
TCE	14 of 15	2.0	Y5-7	5
PCE	13 of 15	2.0	Y5-15	8
Benzene	12 of 15	0.2	Y5-7	5
Toluene	5 of 15	0.4	Y5-5	5
TVHC	14 of 15	4.0	Y5-9	8.5

The highest concentrations occurred on both the north and south side of Building 109. **Figure 6.7** depicts the lateral extent of the total organic concentrations detected. As shown, contaminants detected north of Building 109 generally occur as areas of limited extent. Contaminant concentrations south of Building 109 exhibit a more linear distribution, with the highest concentrations adjacent to the oil/water separator. Additional details regarding the SOV survey at Site 5 are provided in **Appendix C.**

6.7.3 Confirmation and Delineation Activity Results

6.7.3.1 Soil Borings

Five soil borings (WV5SB01-WV5SB05) were drilled at Site 5. Borings WV5SB01, WV5SB02, and WV5SB05 were drilled south of Building 109; WV5SB03, WV5SB04 were drilled north of Building 109. The depths ranged from 18 to 21 feet below ground surface. Three samples were collected at WV5SB02, WV5SB04, and WV5SB05; two samples were collected at WV5SB01 and WV5SB03. Only two samples were collected at the previously mentioned locations because the density of the soil prohibited sample collection. Each sample was analyzed for VOCs, SVOCs, PPM, and PCBs. The borings were drilled in areas

exhibiting the highest SOV measurements. The boring locations are presented on **Figure 4.6** in Section Four. The analytical data is presented in **Table 6-18.**

VOCs detected include acetone, PCE, carbon disulfide and TCE from locations both north and south of Building 109. All concentrations were very low, estimated values and none exceeded even minimum SSL.

Several SVOCs were detected as summarized in Table 4-18. Three constituents - benzo(a)anthracene, carbazole, and chrysene - slightly exceeded the SSL range at concentrations of 1.6 mg/kg (vs 0.7 mg/kg), 0.7 mg/kg (vs 0.2 mg/kg), and 1.5 mg/kg (vs 1 mg/kg), respectively. (However, the carbazole SSL is below the analytical detection limit.) These occurrences are not considered to be significant in magnitude or frequency. Most SVOCs were detected on the south side of Building 109.

No metals were detected above their corresponding SSL range.

6.7.4 Geologic and Hydrogeologic Investigation Results

Subsurface conditions at Site 5 were highly variable due to excavation of the previous structures and fill placement around Building 109. Fill depths averaged 10 feet across the site and varied in composition. The bedrock underlying the fill also varies in composition, but it is generally composed of sandstone. Groundwater was not encountered in any boring at Site 5. A geologic profile of Site 5 is presented as **Figure 6.8.**

Fill depths ranged from 6 to 12 feet at the site. Six feet of fill was encountered in WV5SB03. The deepest fill (12 feet) was encountered at WV5SB04, where drain lines exist. An initial boring penetrated a clay tile drain line. A coarse, well sorted sand, presumed to be bedding for the drain line, was also encountered.

Generally, the fill material consisted of silts with varying fractions of clays, sands, and rock fragments. The majority of the material was classified as sandy silts (SM) with other

TABLE 6-18
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 5
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV6SB0101 04/15/96 3.5' SOIL mg/kg	WV6SB0102 04/15/96 5.0' SOIL mg/kg	WV6SB0201 04/15/96 2.0' SOIL mg/kg	WV6SB0202 04/15/96 5.0' SOIL mg/kg	WV6SB0203 04/15/96 21.0' SOIL mg/kg	WV6SB0301* 04/15/96 3.0' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS			U		U	U	U	U
Acetone	8 - 8000							
Tetrachloroethene	0.5 - 10			0.003 J				
SEMIVOLATILE ORGANICS						U	U	U
Acenaphthylene	200			0.049				
Anthracene	4300		0.061 J	1.3				
Benzo(a)anthracene	0.7		0.079 J	1.6				
Benzo(b)fluoranthene	4		0.054 J	1.3				
Benzo(k)fluoranthene	4		0.053 J	1.3				
Benzo(a)pyrene	0.2 - 4		0.063 J	1.5	0.064 J			
Benzo(g,h,i)perylene	NL		0.038 J	0.61				
Carbazole	0.2**			0.70				
Chrysene	1		0.078 J	1.5	0.08 J			
Dibenz(a,h)anthracene	11			0.18 J				
Dibenzofuran	NL			0.30 J				
Fluoranthene	980		0.20 J	4.0				
Fluorene	160			0.53 J				
Indeno(1,2,3-cd)pyrene	35			0.53				
2-Methylnaphthalene	NL			0.048 J	0.21 J			
Naphthalene	30			0.088 J	0.035 J			
Phenanthrene	NL		0.21 J	3.4	0.12 J			
Pyrene	1400		0.16 J	2.9	0.076 J			
PRIORITY POLLUTANT METALS								
Arsenic	5 - 100	2.2	2.4 J	2.8	3.6	1.9 J	4.8	4.2
Beryllium	0.2 - 180	2.04	0.77	0.83	0.36	0.65	0.98	1.1
Cadmium	0.5 - 40	1.32					1.5	0.89
Chromium	10 - 400	23.8	9.1	17.9	8.7	8.4	21.9	8.9
Copper	130	68.2	28.7	30.2	10.2	19.4	21	22.8
Lead	1.5 - 100	17.94	10.6	12.2	4.1	9.1	17.4	11.9
Mercury	0.2 - 20	0.22				0.16		0.12
Nickel	10 - 2000	38.26	24.1	30.2	13.5	23	25.4	17
Zinc	42,000	44.6	37.5	58.2	34.3	35.4	63.1	26.8

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
* - DENOTES SAMPLE/DUPLICATE PAIRS
** - INDICATES CONCENTRATION BELOW ANALYTICAL DETECTION LIMIT.

TABLE 6-18 , continued
SUMMARY OF CONFIRMATION AND DELINEATION ACTIVITY RESULTS, SITE 5
West Virginia Air National Guard

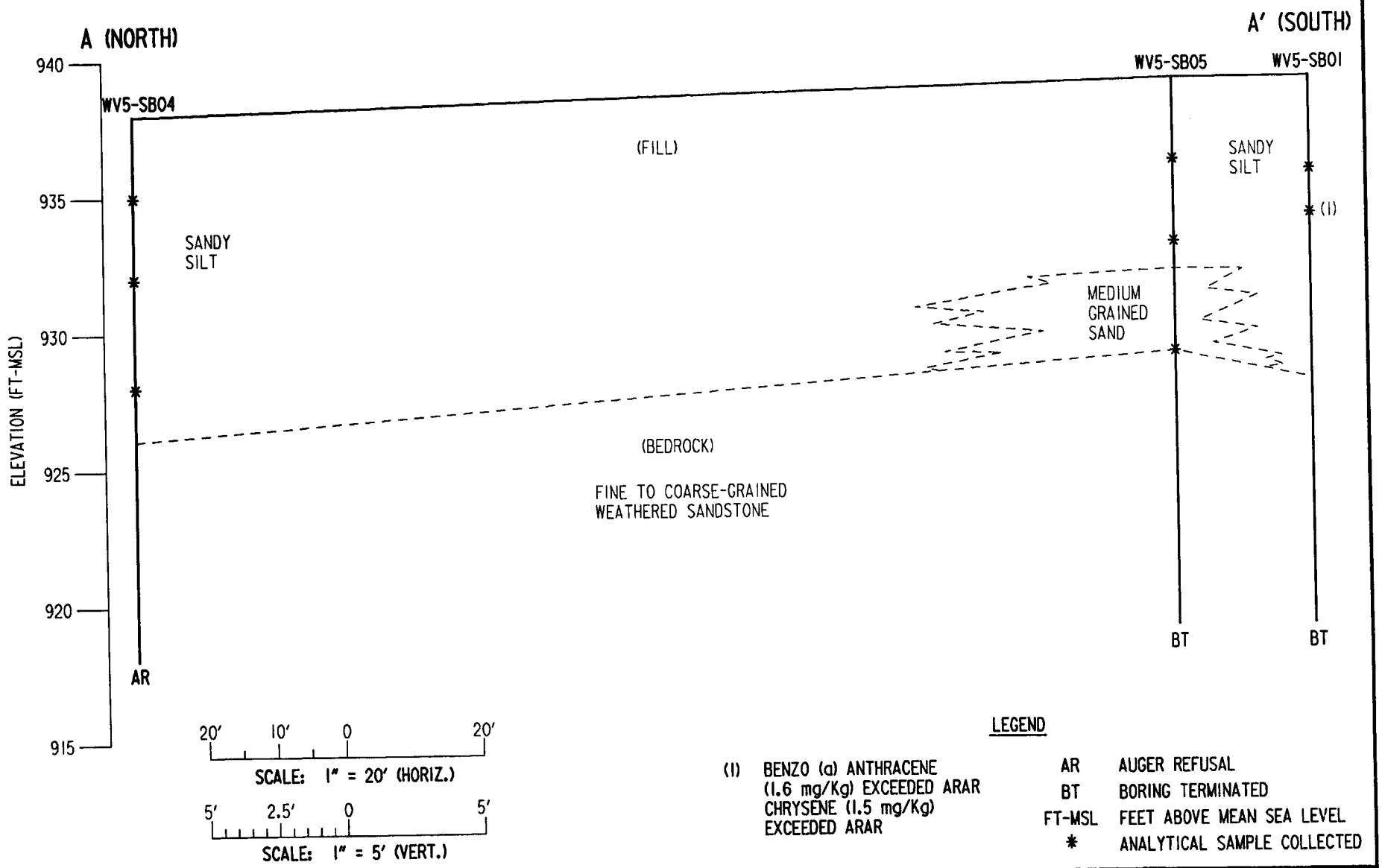
SUMMARY OF CONSTITUENTS DETECTED IN SOIL

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV561* 04/15/96 3.0' SOIL mg/kg	WV5SB0302 04/15/96 6.0' SOIL mg/kg	WV5SB0401 04/15/96 3.0' SOIL mg/kg	WV5SB0402 04/19/96 6.0' SOIL mg/kg	WV5SB0403 04/19/96 10.0' SOIL mg/kg	WV5SB0501 04/19/96 3.0' SOIL mg/kg
PCBS			U	U	U	U	U	U
VOLATILE ORGANICS			U		U	U		U
Acetone	8 - 8000							
Carbon disulfide	14 - 8000			0.004 J				
Trichloroethene	0.02 - 60						0.003 J	
SEMIVOLATILE ORGANICS			U	U	U			U
bis(2-Ethylhexyl)phthalate	0.6 - 50					0.047 J		
Fluoranthene	980						0.052 J	
Phenanthrene	NL						0.042 J	
Pyrene	1400						0.04 J	
PRIORITY POLLUTANT METALS								
Arsenic	5 - 100	2.2	10.6	2.3	5.5	2.5 J	7.6 J	3.2J
Beryllium	0.2 - 180	2.04	1.3	1.2	1.1 B	1.5	0.27	1.5
Cadmium	0.5 - 40	1.32				4.3 J	1.9 J	3.3J
Chromium	10 - 400	23.8	20	15.7	1.1	26.2	4.2	20.5
Copper	130	68.2	29.6	25.4	40	36.3	8.4	46.9
Lead	1.5 - 100	17.94	13.7	8.3	12.6	10.9	5.9	15.8
Mercury	0.2 - 20	0.22			0.14		0.11	
Nickel	10 - 2000	38.26	28.7	25.2	23.9	24.3	11.1	30.2
Selenium	3 - 20	NA						0.46J
Silver	100 - 200	NA					0.96 J	
Zinc	42,000	44.6	44.9	32.1	32	35.3	26.3	41

SAMPLE ID SAMPLE DATE SAMPLE DEPTH MATRIX UNITS	RANGE OF SSL (1) SOIL mg/kg	CRITERION BACKGROUND CONCENTRATION SOIL mg/kg	WV5SB0502 04/19/96 6.0' SOIL mg/kg	WV5SB0503 04/19/96 2.0' SOIL mg/kg
PCBS			U	U
VOLATILE ORGANICS			U	U
SEMIVOLATILE ORGANICS			U	
bis(2-Ethylhexyl)phthalate	0.6 - 50			0.040 J
PRIORITY POLLUTANT METALS				
Arsenic	5 - 100	2.2	3.7 J	11.3 J
Beryllium	0.2 - 180	2.04	1.2	1.1
Cadmium	0.5 - 40	1.32	4.1 J	4.6 J
Chromium	10 - 400	23.8	20.5	23
Copper	130	68.2	46.9	29.2
Lead	1.5 - 100	17.94	15.8	10.3
Nickel	10 - 2000	38.26	32.4	32.5
Zinc	42,000	44.6	43.2	59.8

SSL - SOIL SCREENING LEVEL
(1) - RANGE OF SOIL SCREENING LEVELS AS LISTED IN SECTION 5.0, TABLE 5-2
( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
J - RESULT ESTIMATED
NL - NO SOIL SCREENING LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED

LOC. p:\proj\16545YAP\C\CXYAP002.DGN DATED: 12-14-95 BY: ROS



GEOLOGIC PROFILE
SITE 5 - LIQUID DISPOSAL SITE
WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

FIGURE 6.8

METCALF & EDDY

materials in trace amounts. One exception was the approximate 2-foot layer of well-sorted, medium sand encountered at WV5SB04 associated with the drain line.

Bedrock underlying the fill consisted of two distinct sandstone units. The majority of the rock consisted of a brown, well-sorted, coarse sandstone with a trace of muscovite mica. Some layering was evident, and a 1- to 2-foot-thick layer of gray, moist clay was encountered in WV5SB05. At boring WV5SB01, a gray, fine-grained calcareous sandstone with a trace of muscovite mica was the underlying rock unit.

Groundwater was not encountered in any boring at Site 5. Large fractures in the bedrock were noted at borings WV5SB03 and WB5SB05. Based on the large quantities of grout and bentonite needed to backfill these borings, the fractures appear capable of preventing any accumulation of subsurface water at the site elevation.

SECTION SEVEN
SUMMARY AND CONCLUSIONS

7.1 SUMMARY

From September 1994 to June 1995 a SI was performed at five sites at the 130th AG WVANG at Yeager Airport. This site inspection was performed under a two-volume workplan prepared by M&E (Atlanta) and reviewed and approved by personnel from HAZWRAP (Oak Ridge), ANGRC (Andrews AFB), and the West Virginia Division of Environmental Protection (Charleston). The objectives were to confirm the presence or absence of contamination, evaluate the extent of potential contamination, and assess the potential impacts to human health, welfare, and the environment.

The SI consisted of a screening phase and a confirmation and delineation phase. The screening phase included geophysical surveys, SOV surveys, hand auger borings, and surface water and sediment sample collection.

The confirmation and delineation phase included soil borings, additional hand auger borings and surface water sample collection. Background soils and groundwater were also collected during the confirmation and delineation phase.

A site-specific sampling program was developed based on suspected contaminants. Samples were analyzed for VOCs, SVOCs, PPM, and PCBs. The analyses were performed in accordance with EPA and HAZWRAP protocols. Specific analytical methods were required to meet HAZWRAP Level C Quality Control requirements. Level C data validation was performed on all SI analytical data.

Quality control samples were taken according to the sampling and analysis plan. These included field duplicates; matrix spike/matrix spike duplicates (MS/MSD); trip blanks, equipment rinsates, and source water samples.

ARARs were developed for specific contaminants detected in soil, sediment, and water samples collected during the SI. Analytical data were evaluated based on the compounds detected in each sample compared to background sampling results and ARARs.

All field activities associated with the SI and the resulting data are documented in this report. This information will be used to make decisions regarding the future disposition of these sites.

7.2 CONCLUSIONS

7.2.1 Site 1 - Waste Disposal Site No. 1

- The site has been impacted by previous disposal activities.

- Antimony, cadmium, copper, and lead were detected within the waste disposal area at concentrations exceeding the SSL range. Copper and lead were detected downslope of the waste disposal area at concentrations exceeding the SSL range. No contaminants exceeded SSL in the alluvial fan area. No surface water samples exceeded MCLs.

- Small amounts of VOCs and SVOCs were detected upslope and downslope of the waste disposal area. These compounds were well below their respective SSL. The source of SVOCs detected in the ravine is most likely runoff from offsite areas and not attributable to Site 1 activities because SVOCs were detected upslope of the waste disposal area.

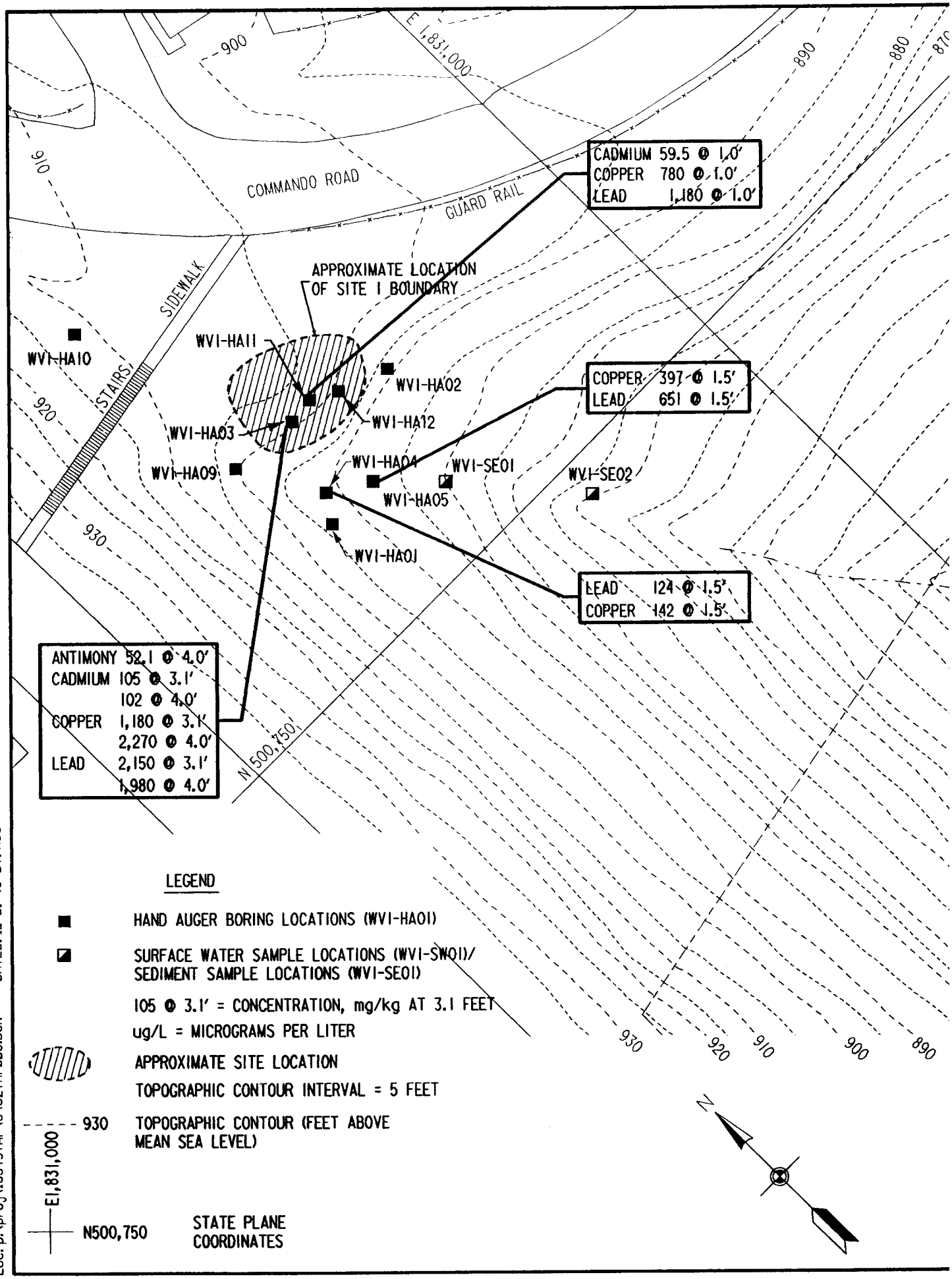
- The horizontal and vertical extent of contamination in soil is limited. Lateral migration is limited to approximately 85 feet downslope of the waste disposal area; vertical migration is generally limited to the upper 2 feet of soil downslope of the waste disposal area.

- Groundwater does not appear to have been impacted due to the absence of contamination in surface water collected at seep downslope of the waste disposal area. The seep represents a site-specific groundwater discharge point.

A summary of contaminants exceeding ARARs at Site 1 is listed in **Table 7-1**. The distribution of contaminants exceeding ARARs at Site 1 is graphically presented in **Figure 7.1**.

TABLE 7-1
SUMMARY OF CONTAMINANTS EXCEEDING ARARs
SITE 1

	Soil (Conc. Detected vs. ARAR, mg/kg)	Sediment (Conc. Detected vs. ARAR, mg/kg)	Surface Water (Conc. Detected vs. ARAR, µg/L)
VOCs	None	None	None
SVOCs	None	None	None
PPM	Antimony (52.1 vs 30) Cadmium (59.5 - 102 vs 40) Copper (142-2270 vs 130) Lead (124-2,150 vs 100)	None	None



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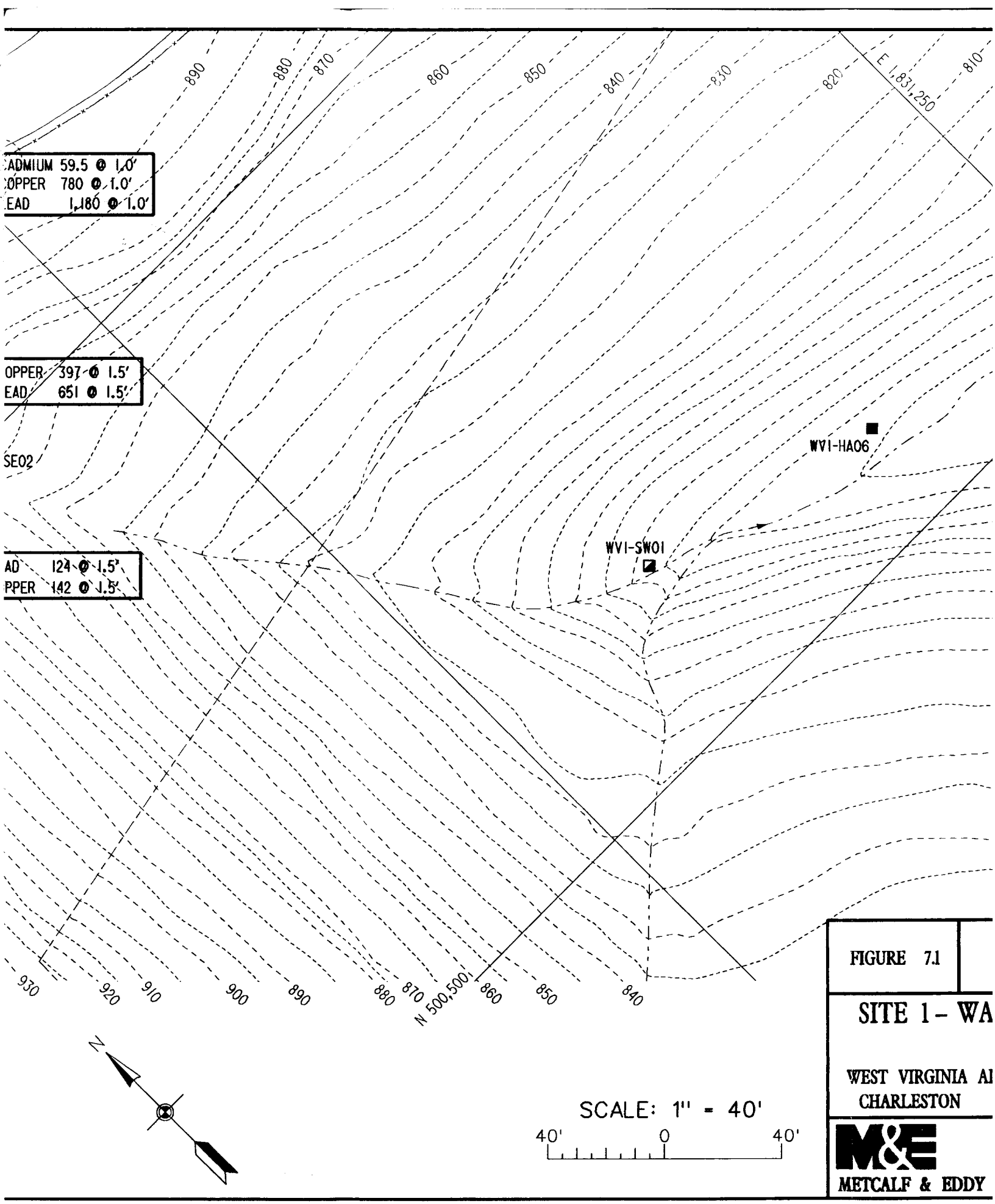


FIGURE 7.1

SITE 1 – WA

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CHARLESTON

METCALF & EDDY

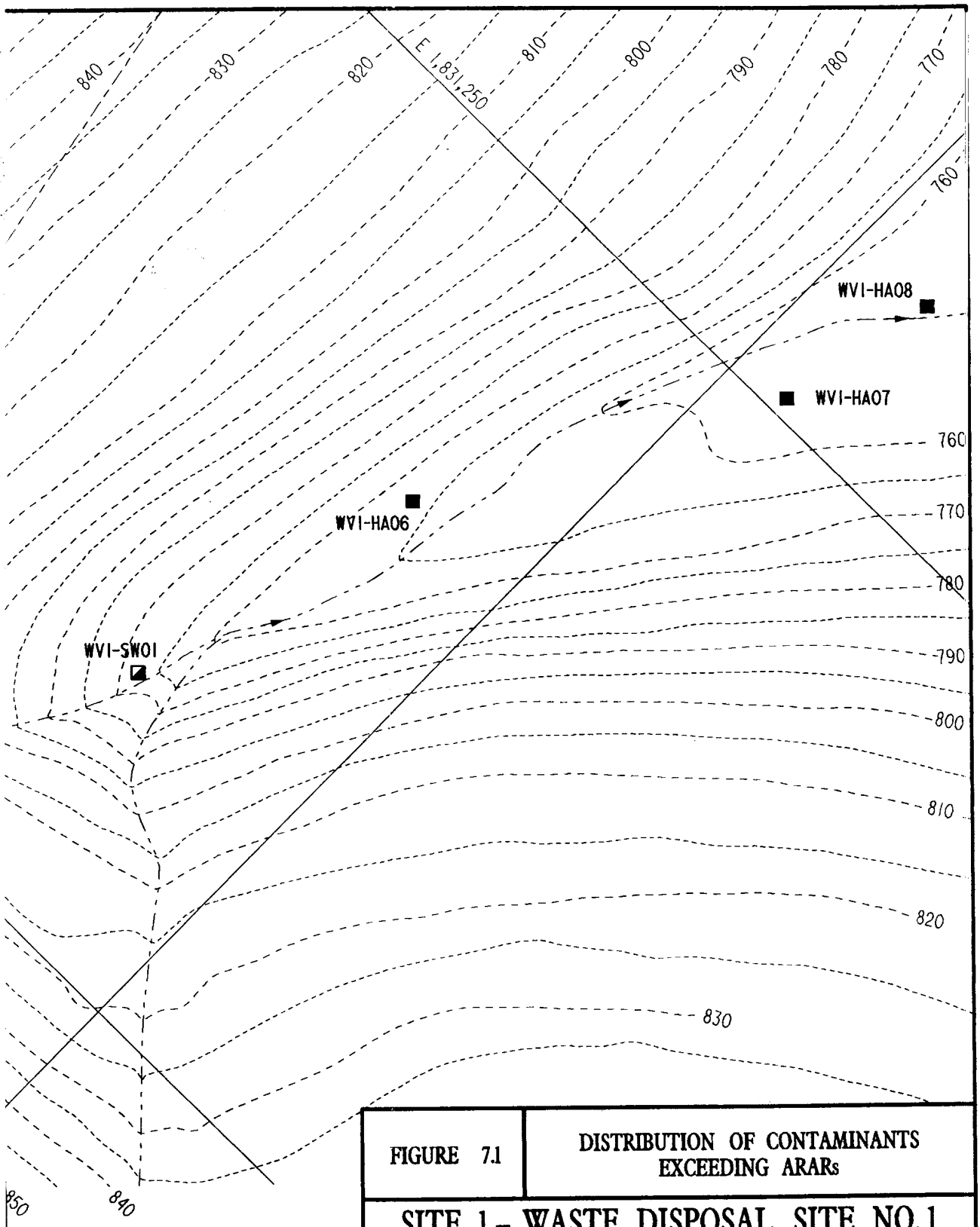


FIGURE 7.1 DISTRIBUTION OF CONTAMINANTS EXCEEDING ARARs

SITE 1 - WASTE DISPOSAL SITE NO.1

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

SCALE: 1" = 40'

40' 0 40'

M&E METCALF & EDDY

APPROVED:

SCALE: DATE:

7.2.2 Site 2 - Waste Disposal Site No. 2

- Low concentrations of VOCs and SVOCs (acetone, methylene chloride, and 2-butanone) were detected in soil at Site 2. The constituents were well below their respective SSL and are common laboratory contaminants.

- Low concentrations of VOCs and SVOCs (acetone, 2-butanone, and toluene) were detected in sediments at concentrations well below their respective SSL. In addition to being common laboratory contaminants, these compounds were detected in surface water upgradient of Site 2.

- Lead in one soil sample (WV2-HA0801) slightly exceeded the SSL range (114 vs 100 mg/kg) at a 2.3-foot depth. The magnitude and frequency of exceedance is not considered to be significant.

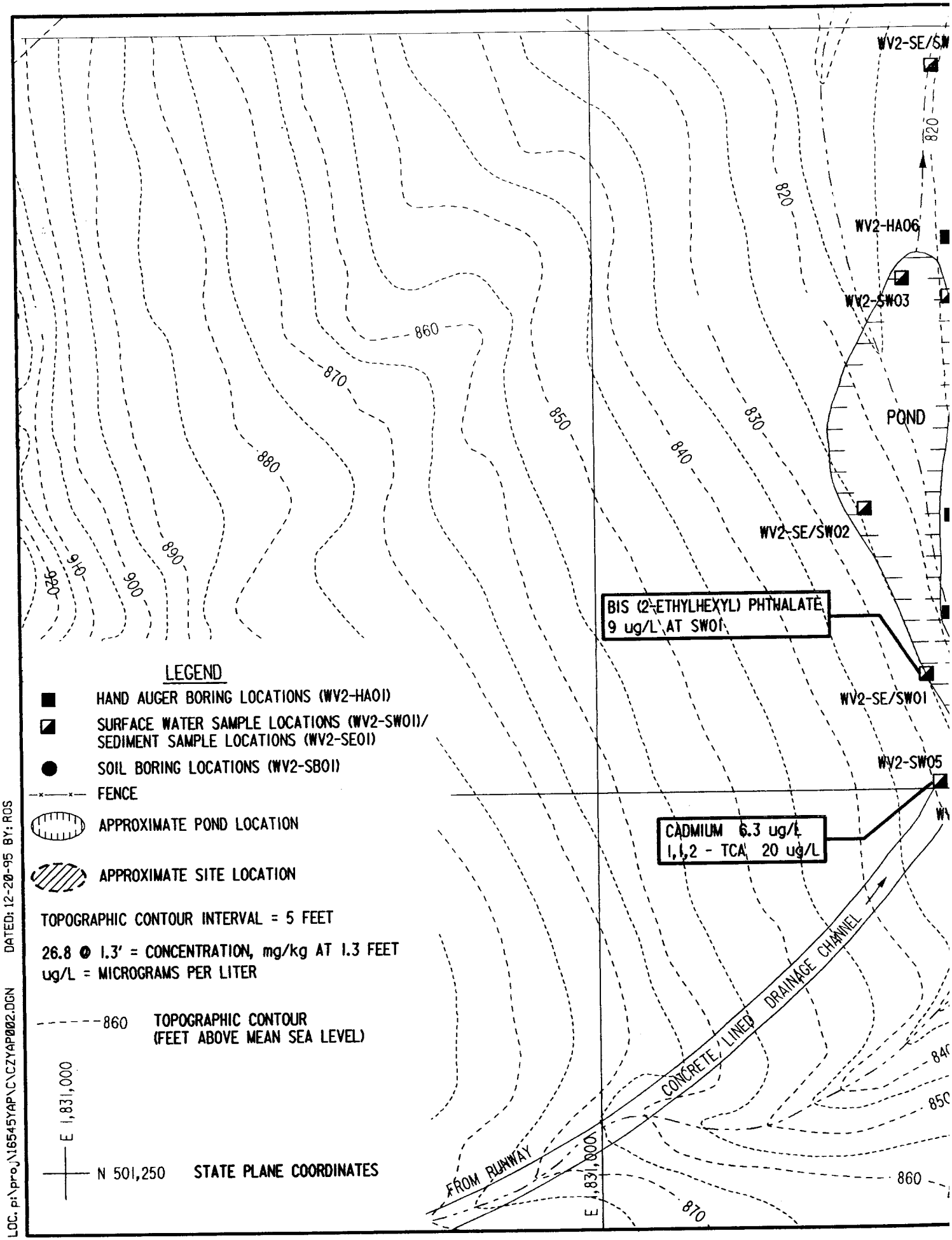
- At the time of the SI, groundwater was not encountered in the alluvium/residuum. Based on the vertical separation between shallow soil contamination found and the depth to the water table (greater than 24 feet), it is unlikely that groundwater has been impacted by site activities.

- One surface water sample slightly exceeded the MCL for bis(2-ethylhexyl)phthalate (9 vs 6 μg/L). Upstream surface water samples contained 1,1,2 TCA and cadmium above MCLs indicating an upgradient source.

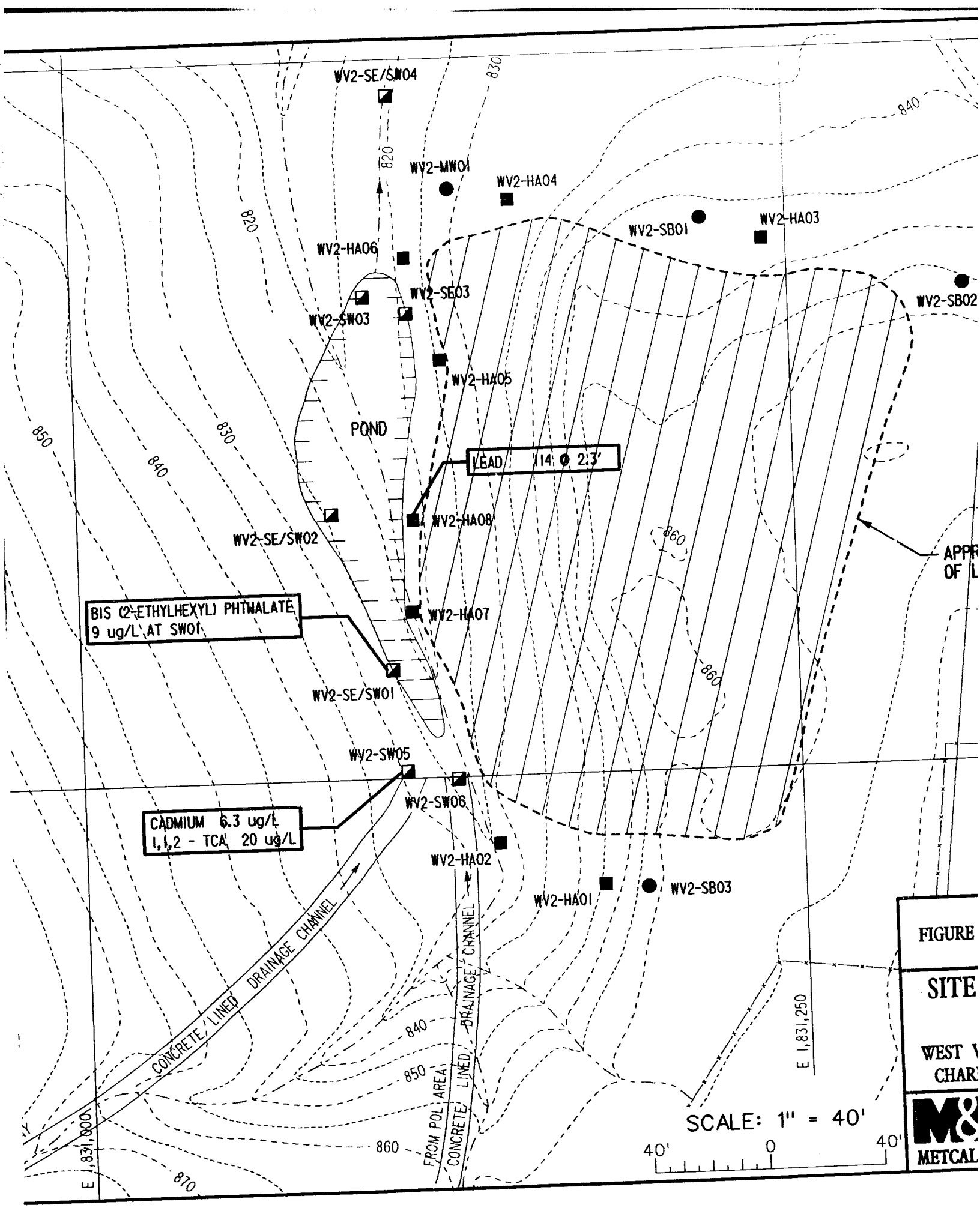
A summary of contaminants exceeding ARARs at Site 1 is listed in **Table 7-2.** The distribution of contaminants exceeding ARARs at Site 2 is graphically presented in **Figure 7.2.**

TABLE 7-2
SUMMARY OF CONTAMINANTS EXCEEDING ARARs
SITE 2

	Soil (Conc. Detected vs. ARAR, mg/kg)	**Sediment (Conc. Detected vs. ARAR, mg/kg)**	**Surface Water (Conc. Detected vs. ARAR, µg/L)**
VOCs	None	None	1,1,2-TCA (upstream) (20 vs 5)
SVOCs	None	None	bis(2-ethylhexyl)phthalate (9 vs 6)
PPM	Lead (114 vs 100)	None	Cadmium (upstream) (6.3 vs 5)
PCBs	None	None	None



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WV2-SE/SW04
WV2-MW01
WV2-HA04
WV2-SB01
WV2-HA03
WV2-HA06
WV2-SE03
WV2-SW03
WV2-SB02
WV2-HA05
POND
LEAD 114 @ 2.3'
WV2-HA08
WV2-SE/SW02
BIS (2-ETHYLHEXYL) PHTHALATE 9 ug/L AT SW01
WV2-HA07
WV2-SE/SW01
WV2-SW05
WV2-SW06
CADMIUM 6.3 ug/L
1,1,2 - TCA 20 ug/L
WV2-HA02
WV2-HA01
WV2-SB03
CONCRETE LINED DRAINAGE CHANNEL
FROM POL. AREA CONCRETE LINED DRAINAGE CHANNEL
E 1,831,000
E 1,831,250
820
830
840
850
860
870
SCALE: 1" = 40'
40' 0 40'
FIGURE
SITE
WEST
CHAR
M&
METCAL

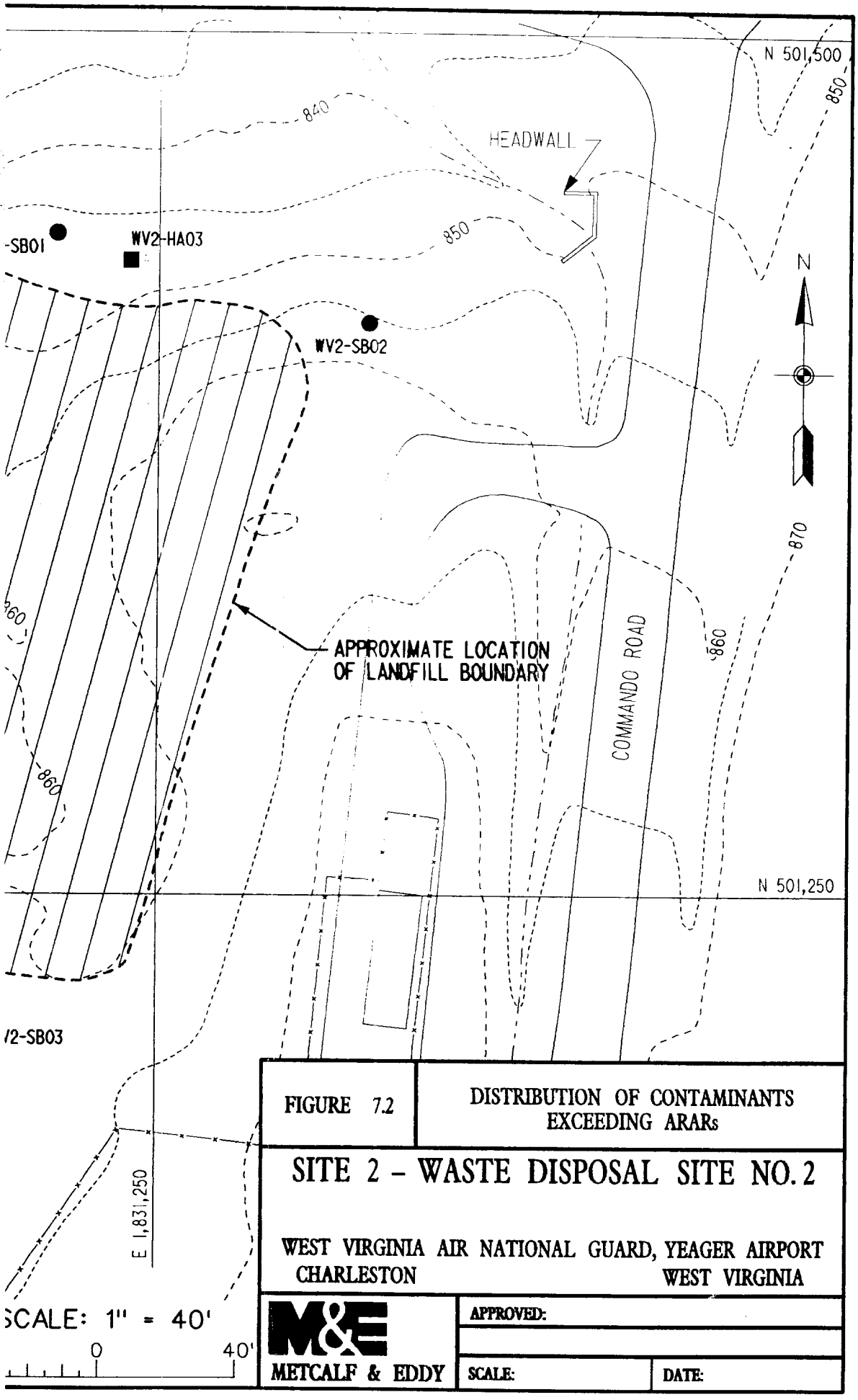


FIGURE 7.2 — DISTRIBUTION OF CONTAMINANTS EXCEEDING ARARs

SITE 2 – WASTE DISPOSAL SITE NO. 2

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

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	SCALE:	DATE:

7.2.3 Site 3 - Former Fire Training Area

- Low concentrations of VOCs and SVOCs were detected in soil all below SSL. Only chrysene and benzo(a)anthracene slightly exceeded their SSL range in one sample at a concentration of 1.6 mg/kg (vs 1 mg/kg), and 1.4 mg/kg (vs 0.7 mg/kg), respectively. The concentrations detected decreased with depth and were not detected at boring termination.

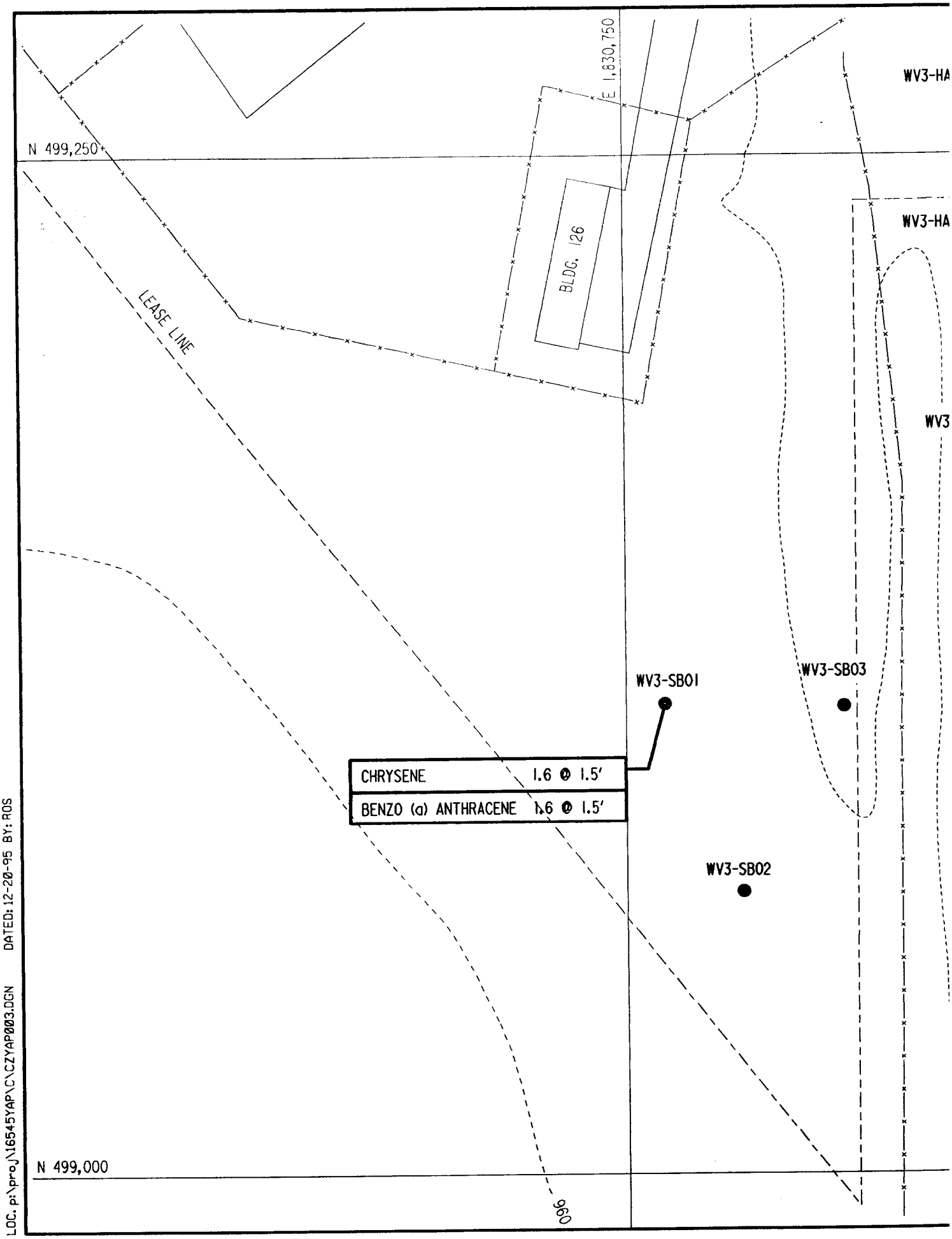
- PCBs were not detected in soil.

- Groundwater was not encountered at Site 3 to a depth of 31 feet below ground surface. Based on the vertical separation between shallow soil contamination found and the depth to the water table (greater than 31 feet), it is unlikely that groundwater has been impacted by site activities.

A summary of contaminants exceeding ARARs at Site 3 is listed in **Table 7-3**. The distribution of contaminants exceeding ARARs at Site 3 is graphically presented in **Figure 7.3.**

TABLE 7-3
SUMMARY OF CONTAMINANTS EXCEEDING ARARs
SITE 3

	Soil (Conc. Detected vs. ARAR, mg/kg)
VOCs	None
SVOCs	Chrysene (1.6 vs 1.0) Benzo(a) anthracene (1.4 vs 0.7)
PPM	None
PCBs	None


E 1,830,750
N 499,250
BLDG. 126
LEASE LINE
WV3-HA
WV3-HA
WV3
WV3-SB01
WV3-SB03
WV3-SB02
CHRYSENE 1.6 @ 1.5'
BENZO (a) ANTHRACENE 1.6 @ 1.5'
N 499,000
090
LOC. p:\proj\16545YAP\C\CZYAP003.DGN DATED: 12-20-95 BY: ROS

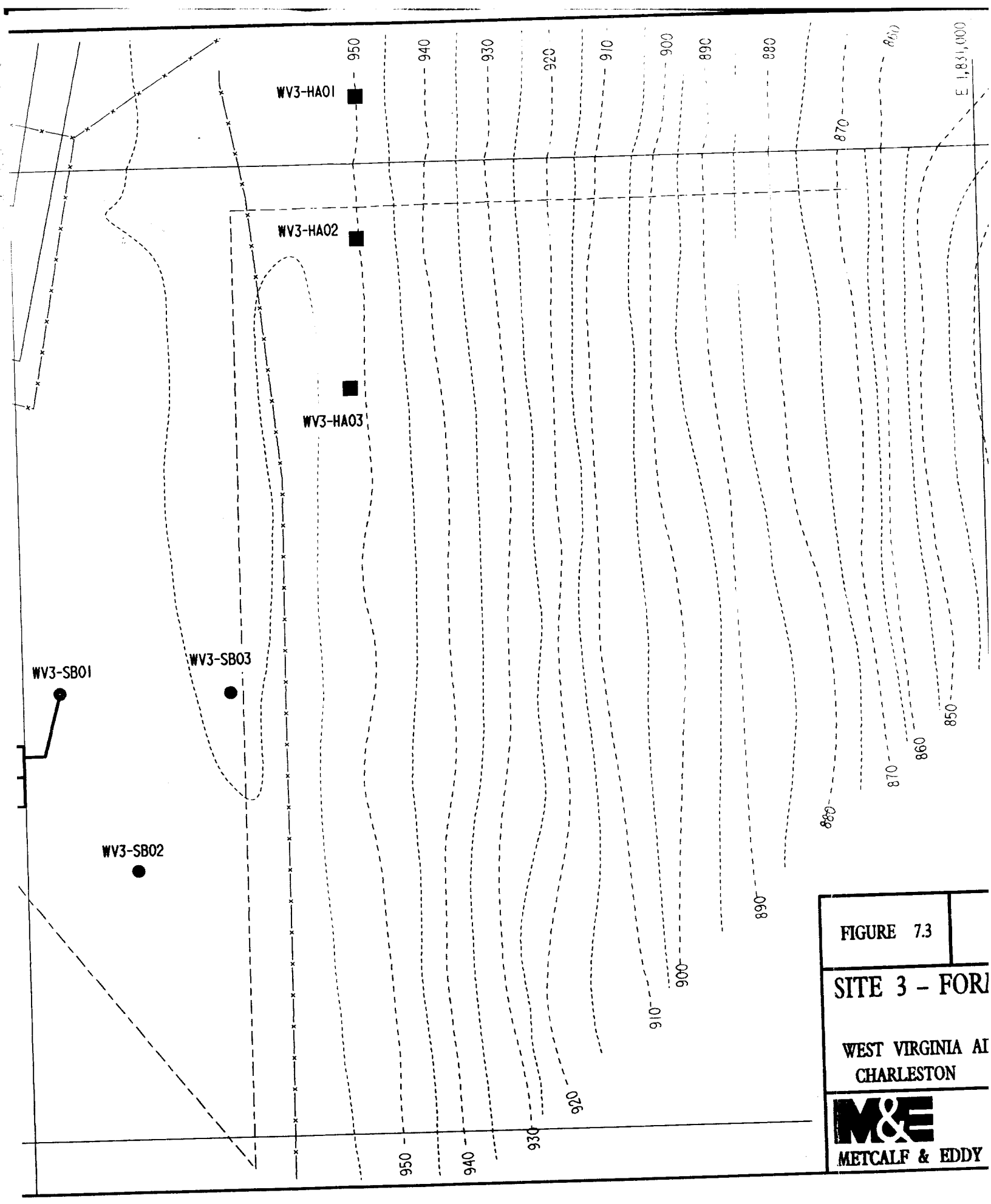


FIGURE 7.3

SITE 3 – FORI

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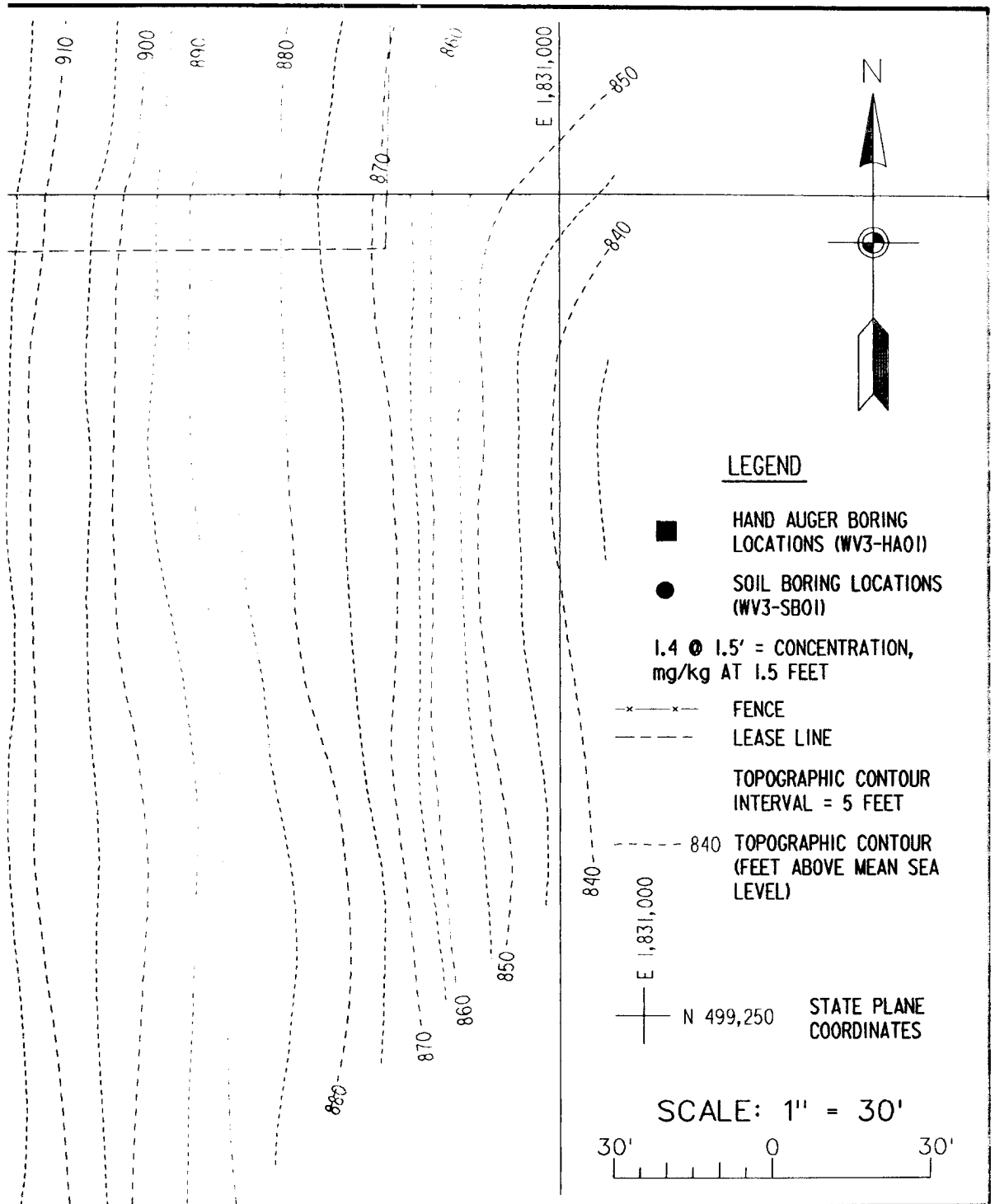


FIGURE 7.3	DISTRIBUTION OF CONTAMINANTS EXCEEDING ARARs

SITE 3 - FORMER FIRE TRAINING AREA

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

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	SCALE:	DATE:

7.2.4 Site 4 - Past Chemical Disposal at Engine Test Stand

- Low concentrations of VOCs were detected all below their respective SSL range. SVOCs were not detected.

- Groundwater was not encountered at Site 4 to a depth of 30 feet below ground surface. Based on the amount of vertical separation between shallow soil contamination found and the depth to the water table, it is unlikely that groundwater has been impacted by site activities.

7.2.5 Site 5 - Liquid Disposal Site

- Low concentrations of VOCs were detected in soil all below the corresponding SSL range. Benzo(a)anthracene, carbazole, and chrysene slightly exceeded their respective SSL. (However, the carbazole SSL is below analytical detection limits.)

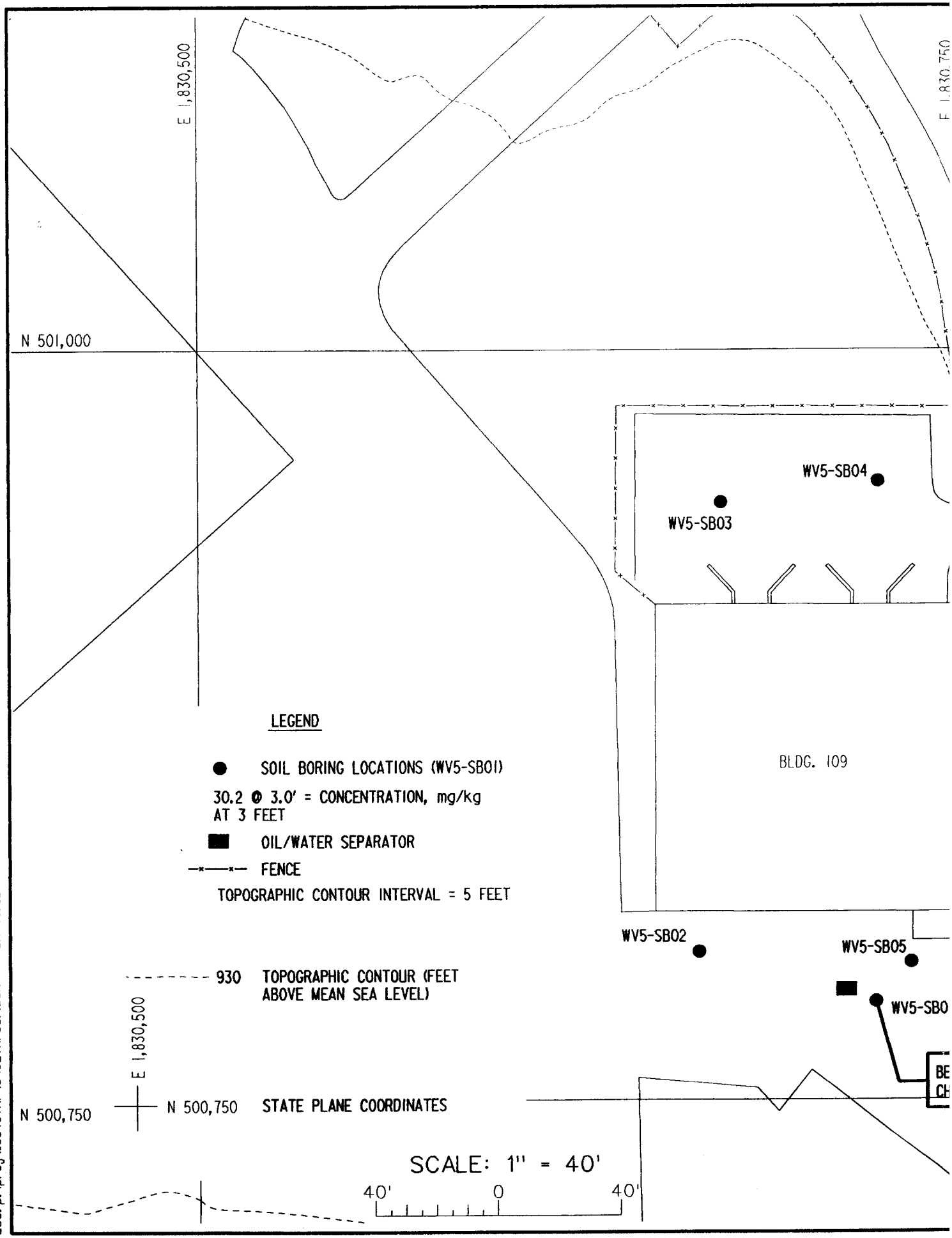
- No PPM detected exceeded SSLs.

- PCBs were not detected.

- Groundwater was not encountered to a depth of 21 feet below ground surface. Based on the amount of vertical separation between shallow soil contamination found and the depth to the water table, it is unlikely that groundwater has been impacted by site activities.

A summary of contaminants exceeding ARARs at Site 5 is listed in **Table 7-4.** The distribution of contaminants exceeding ARARs at Site 5 is graphically presented in **Figure 7.4.**

TABLE 7-4 SUMMARY OF CONTAMINANTS EXCEEDING ARARs SITE 5	
	Soil (Conc. Detected vs. ARAR, mg/kg)
VOCs	None
SVOCs	Benzo(a)anthracene (1.6 vs 0.7) Cabazole (0.7 vs 0.2*) Chrysene (1.5 vs 1.0)
PPM	None
PCBs	None
* Note, SSL is below analytical detection limit.	



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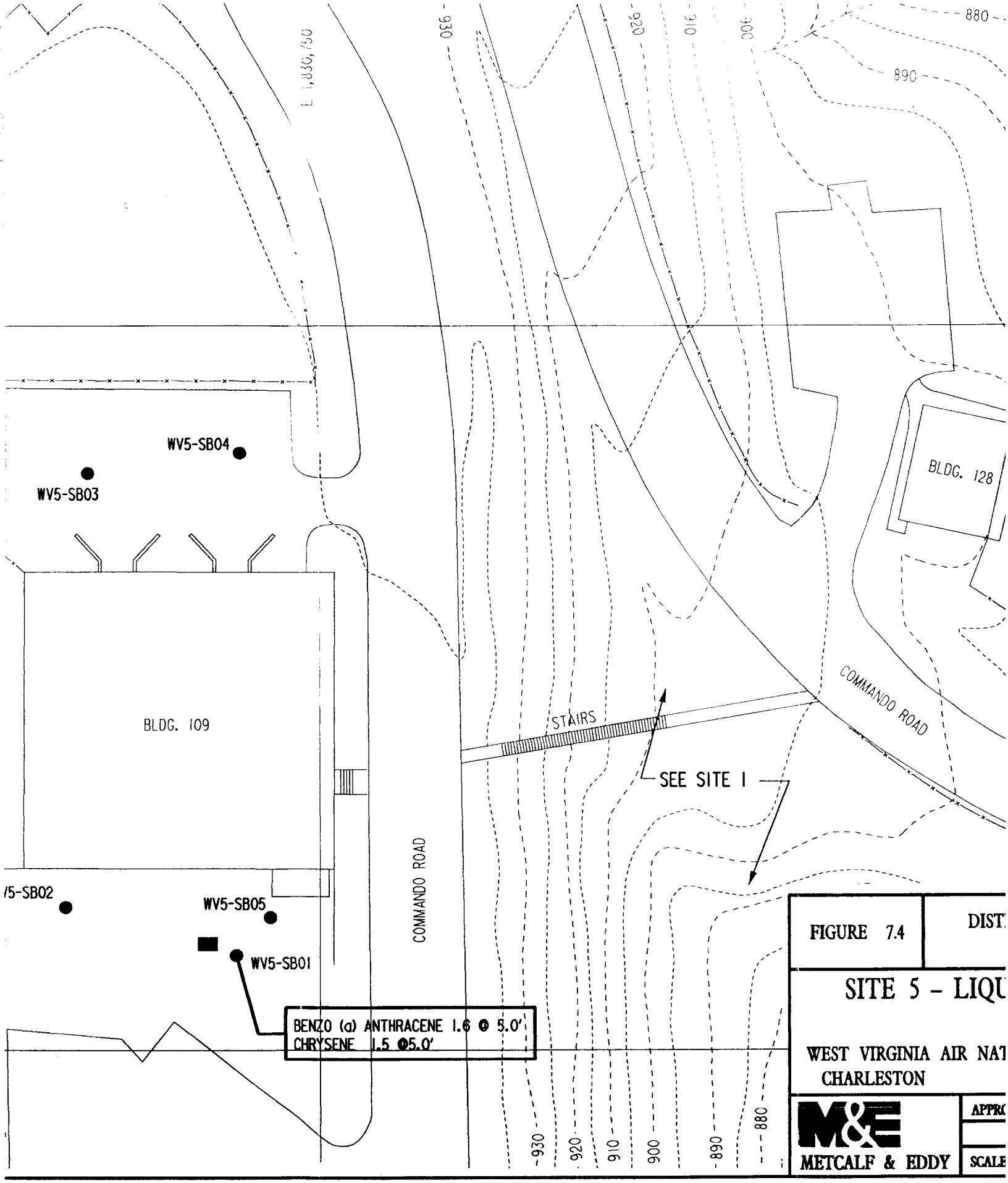


FIGURE 7.4

DIST

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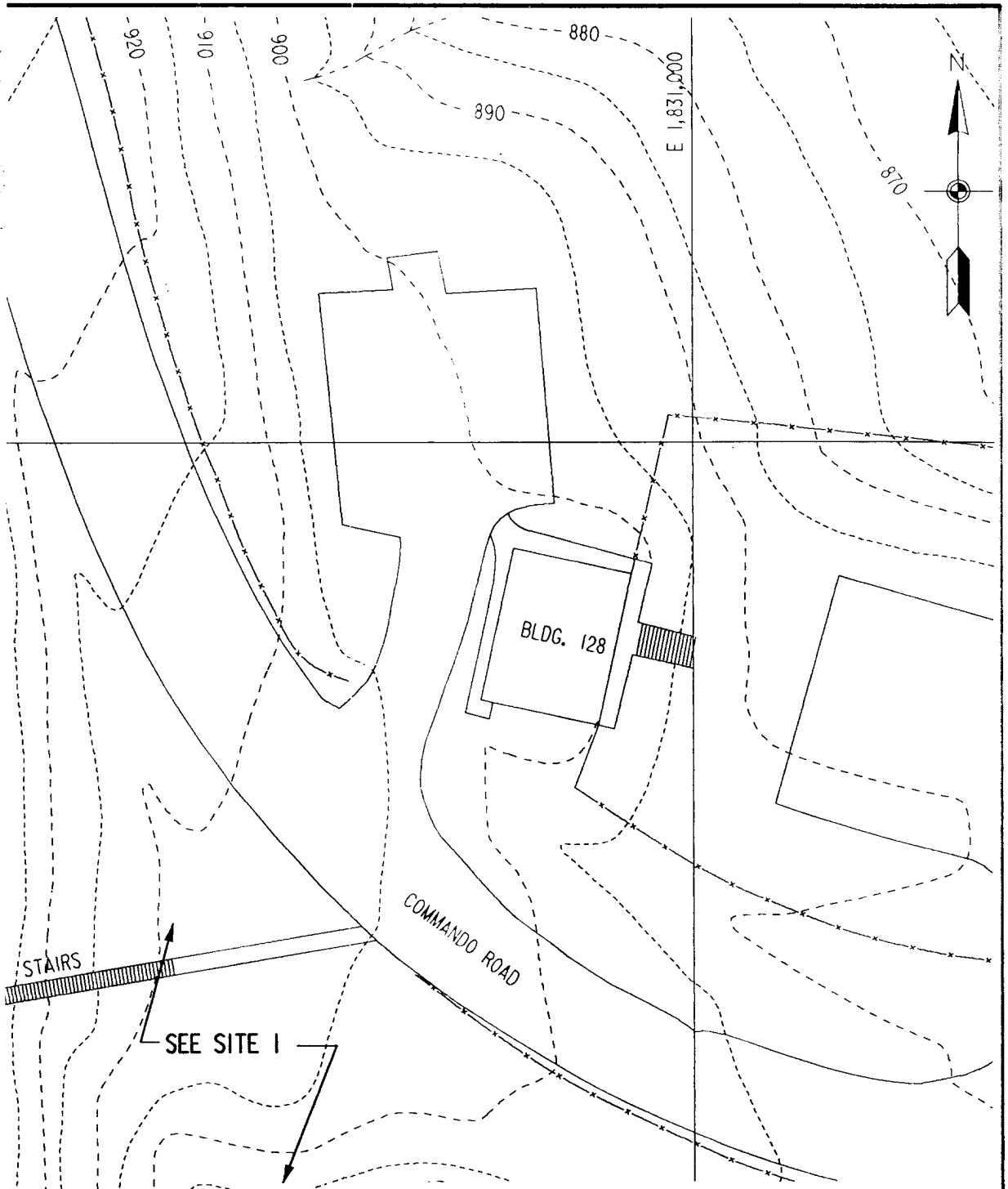


FIGURE 7.4

DISTRIBUTION OF CONTAMINANTS EXCEEDING ARARs

SITE 5 - LIQUID DISPOSAL SITE

WEST VIRGINIA AIR NATIONAL GUARD, YEAGER AIRPORT
CHARLESTON WEST VIRGINIA

METCALF & EDDY

APPROVED:

SCALE:

DATE:

SECTION EIGHT
RECOMMENDATIONS

A decision regarding future actions at each of the five sites will be made based on the results of the SI at the Base. This decision may include preparing a decision document, performing a focused feasibility study/remedial measure, or remedial investigation/feasibility study, or remedial action. The decision could be made for each operable unit or an entire site. The following sections present recommendations for these future activities based on the results of this SI.

8.1 SITE 1 - WASTE DISPOSAL SITE NO. 1

Although metals (antimony, cadmium, copper, and lead) were detected above the corresponding SSL, no exposure to these constituents is known or suspected. Migration to groundwater has not occurred as evidenced by sampling the seep located approximately 300 feet downgradient of the Site 1 boundary. This seep is the closest groundwater discharge point from the source. Similarly, no direct contact is suspected; onsite workers do not conduct activities, such as excavation, in the drainage channel. Future construction is unlikely given topography, the drainage feature, and other more suitable areas onsite. Unauthorized access is not expected since entrance to the Base is controlled by a gate. Inhalation of dust is not expected given grassed soil cover. Since exposure is not known or suspected, an adverse impact to human health is not predicted. No further action is recommended at Site 1. No further action will require a DD be prepared.

8.2 SITE 2 - WASTE DISPOSAL SITE NO. 2

No further action is recommended at Site 2 because:

- The low levels of VOCs detected may be attributable to off-site sources and/or laboratory contamination.

- Lead **slightly** exceeded its SSL at shallow depths and decreased to below SSL with depth.

- Groundwater was not encountered and given the vertical separation between the low concentrations detected and the depth to the water table (greater than 24 feet) it is unlikely that groundwater has been affected.

- The downstream surface water exceedance of VOCs was slight, and upstream surface water VOC contamination was detected from on-Base runoff.

No further action will require that a DD be prepared.

8.3 SITE 3 - FORMER FIRE TRAINING AREA

No further action is recommended at Site 3 because:

- The source has been removed.

- One slight SVOC soil exceedance was detected, but the concentration decreased to below detection limits with depth.

- Groundwater was not encountered. Given the vertical separation between the low concentrations detected and the depth to the water table (greater than 31 feet) it is unlikely that groundwater has been affected.

No further action will require that a DD be prepared.

8.4 SITE 4 - PAST CHEMICAL DISPOSAL AT ENGINE TEST STAND

No further action is recommended at Site 4 because:

- No exceedances were detected.
- Groundwater was not encountered. Given the vertical separation between the low concentrations detected and the depth to the water table (greater than 30 feet) it is unlikely that groundwater has been affected.

No further action will require that a DD be prepared.

8.5 SITE 5 - LIQUID DISPOSAL SITE

No further action is recommended at Site 5 because:

- VOCs and PPMs did not exceed SSLs.
- Two SVOCs only slightly exceeded SSLs.
- Groundwater was not encountered. Given the vertical separation between the low concentrations detected and the depth to the water table (greater than 21 feet) it is unlikely that groundwater has been affected.

No further action will require that a DD be prepared.

SECTION NINE

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APPENDIX A

FIELD PROCEDURES AND ANALYTICAL PROGRAM

APPENDIX A
FIELD PROCEDURES AND ANALYTICAL PROGRAM

TABLE OF CONTENTS

SECTION — Page

1.0 FIELD PROCEDURES AND EQUIPMENT A-1
- 1.1 Drilling Procedures A-1
  - 1.1.1 Soil Borings A-1
  - 1.1.2 Monitoring Wells A-3
    - 1.1.2.1 Monitoring Well Installation A-3
    - 1.1.2.2 Monitoring Well Development A-4
- 1.2 Aquifer Testing A-5
- 1.3 Site Survey A-6
- 1.4 Sample Collection Procedures A-6
  - 1.4.1 Hand Auger Borings A-6
  - 1.4.2 Surface Water A-7
  - 1.4.3 Sediment A-8
  - 1.4.4 Soil Borings A-8
  - 1.4.5 Groundwater A-9
- 1.5 Field Monitoring Procedures A-10
  - 1.5.1 Photoionization Detector A-10
  - 1.5.2 pH/Conductivity Meter A-11
- 1.6 Decontamination Procedures A-11
  - 1.6.1 Initial Rinse Water A-12
  - 1.6.2 Deionized Organic Free Water A-12
  - 1.6.3 Other Cleaning Materials A-12
  - 1.6.4 Large Equipment A-13
  - 1.6.5 Small Equipment A-14
- 1.7 Collection of Field Quality Control Samples A-14
  - 1.7.1 Source Water A-14
  - 1.7.2 Rinse Blanks A-14
  - 1.7.3 Field Duplicates A-16
  - 1.7.4 Matrix Spikes/Matrix Spike Duplicates A-16
  - 1.7.5 Trip Blanks A-16
  - 1.7.6 Sample Preservation A-18
- 1.8 Sample Handling and Shipping A-20

2.0 LABORATORY ANALYSES AND QUALITY CONTROL A-21
- 2.1 Analytical Methods A-21
  - 2.1.1 Reporting Limits A-22

TABLE OF CONTENTS (Continued)

SECTION		Page
2.2	Data Management	A-27
	2.2.1 Sample Designation	A-27
	2.2.2 Chronology of Sample Collection	A-28
2.3	Data Reduction	A-28
2.4	Data Validation	A-35
	2.4.1 Data Qualifiers	A-35
	2.4.2 Data Validation Summary	A-36
2.5	Quality Control Summary	A-38
	2.5.1 Trip Blanks	A-39
	2.5.2 Rinse Blanks	A-39
	2.5.3 Source Water Blanks	A-42
	2.5.4 Field Duplicates	A-42

TABLES

TABLE		Page
1-1	Summary of Rinse Blanks During SI, 130th Airlift Group - WVANG	A-15
1-2	Summary of Trip Blanks During SI, 130th Airlift Group - WVANG	A-17
1-3	Sampling Parameters, Containers, and Preservation Requirements for Samples Collected at 130th Airlift Group, WVANG	A-18
2-1	Standard Analytical Methods	A-23
2-2	Contract Required Quantitation Limits for Volatile Organic Compounds	A-24
2-3	Contract Required Quantitation Limits for Semivolatile Organic Compounds	A-25
2-4	Reporting Limits for PCBs	A-26

TABLES (Continued)

TABLE		Page
2-5	Quantitation Limits for Inorganic Compounds	A-26
2-6	Chronology of Sample Collection, West Virginia Air National Guard - Yeager Airport, Charleston, West Virginia	A-29
2-7	Summary of Constituents Detected in Trip Blanks, West Virginia Air National Guard	A-40
2-8	Summary of Constituents Detected in Rinse Blanks, West Virginia Air National Guard	A-43
2-9	Summary of Constituents Detected in Source Water Blanks, West Virginia Air National Guard	A-44

APPENDIX A
FIELD PROCEDURES AND ANALYTICAL PROGRAM

1.0 FIELD PROCEDURES AND EQUIPMENT

The following sections outline data and sampling procedures for the Site Investigation. Also included are the procedures for decontamination and quality control to ensure representative, defensible samples.

1.1 Drilling Procedures

The basic protocols adhered to by field personnel during the soil boring drilling and monitoring well installation followed DOE/HWP-69/R1, Section 6.5 and DOE/HWP-100, SOPs 2, 3, and 9.

- Prior to any drilling, each site was examined with Base personnel for set-back distances, height/clearance, and any specific Yeager Airport restriction. All sites were checked for utilities (overhead/underground) with the Base Civil Engineer.

- A geologist was present at each operating drill rig to log samples, monitor drilling operations, record soil and groundwater data, monitor and record the well installation procedures, and prepare the boring logs and well diagrams. Each geologist was responsible for one operating rig.

1.1.1 Soil Borings

All borehole drilling conformed to requirements in DOE/HWP-69/R1, Subsection 6.5.1, and all technical information was recorded on a Geologic Log form (Appendix H). Confirmation and delineation activities resulted in drilling 18 soil borings.

All borings were advanced with a truck-mounted drill rig using hollow stem augers. Soil samples were retrieved with a 3-inch inside diameter (ID) California-modified split spoon sampler lined with three 6-inch long stainless steel tubes. Standard penetration tests were conducted using American Society of Testing and Materials (ASTM) 1586. The split spoon samplers were driven 18 inches by a 140-pound weight with a 30-inch free fall. At one boring per site, samples were obtained continuously from ground surface down to the water table, auger refusal, or 30 feet below ground surface (bgs), whichever was encountered first. All background soil borings were sampled continuously. The soil boring converted to a background monitoring well was continuously logged to the termination depth. The remaining borings were sampled at 5-foot intervals.

A Metcalf & Eddy (M&E) geologist described the soils using ASTM D2488-84, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). All pertinent information observed during drilling operations was noted in the field notebook on water-resistant paper. The following information was noted on the Geologic Log form.

- Drilling method, type of drilling rig, driller's name
- Sample type, depth interval sampler was driven, percent recovery
- Number of blow counts required to drive each 6-inch interval of the split spoon sampler
- Time at which the sample was collected
- Air monitoring instrument readings
- Start and completion times for each boring
- Depth at which water was first encountered
- Lithology according to the United Soil Classification System (USCS) and stratigraphic descriptions, including percentages of particle sizes
- Munsell color and code
- Other soil characteristics (solvent odor, discoloration, etc.)

- As soil cuttings were generated, they were containerized in drums, except those from background locations. Upon conclusion of drilling activities, one sample per site was obtained as a composite from each container at that site and was analyzed using the Toxicity Characteristic Leaching Procedure (TCLP). The drums were moved to a temporary storage location at Site 2.

All abandoned soil borings were filled with a bentonite-cement mixture using a tremie pipe.

1.1.2 Monitoring Wells

One monitoring well was installed on base during confirmation activities at Background location 1. The groundwater monitoring well installed during the confirmation field activities followed the guidelines in DOE/HWP-100, SOP 2, and DOE/HWP-69/.R1, Subsection 6.5.1. A Geological Log form was completed for the well and the cuttings handled as described above.

1.1.2.1 Monitoring Well Installation

The monitoring well was installed with a truck-mounted drill rig with hollow stem augers. This method of well installation avoided the introduction of foreign drilling fluids and allowed installation of the screen and riser (blank casing) inside the auger flights. The auger flights maintained the integrity of the borehole during installation and ensured that the sand pack was equally distributed in the annular space. The monitoring well was installed to approximately 17-18 feet below ground surface to monitor the water table and water quality. In order to effectively seal the monitoring wells from surface runoff, a 2-foot seal was placed above the sand pack. The seal consisted of 2-foot-thick bentonite pellet seal overlain by a bentonite-cement grout mixture.

After the borehole was advanced to the termination depth, procedures and protocols for installation were as follows:

- The bottom borehole depth was measured with a weighted fiberglass tape through the auger flights.

- The monitoring well casing consisted of new, 2-inch-diameter, Schedule 40 polyvinyl chloride (PVC). The casing consisted of flush-threaded riser, screen and end cap; the screen lengths was 10 feet. A PVC screen with 0.010-inch slots was installed. All casing was steam cleaned prior to installation.

- The PVC casing was suspended inside the augers and clean, well-rounded #3 silica sand was added slowly using a tremie pipe as the auger flights were removed. Estimates of the sand volume needed to raise the sand pack to 2 feet above the top of the screen and frequent tape checks were made to avoid bridging and assure proper sand placement.

- Bentonite pellets were added slowly from the ground surface in 6-inch lifts after the sand pack was emplaced. The bentonite pellet seal formed a barrier to keep the bentonite/cement grout from penetrating the sand pack. The pellet seal was manually checked with a weighted tape to assure that a minimum 2 feet was placed. Clean, potable water was added to each lift to allow proper hydration. The pellet seal was allowed to hydrate for 1 hour.

- The bentonite/cement grout consisted of Portland Type II cement mixed with clean potable water and 2 to 5 percent by weight powdered bentonite. The grout mixture was allowed to hydrate for a minimum of 24 hours before development to effectively seal the well.

- A flush-mounted protective steel casing was installed over the well after installation. A minimum 6-inch-thick concrete pad was installed around the well head and raised slightly to drain surface runoff away from the wellhead.

- A well construction log was completed for the monitoring well installed (Appendix D).

1.1.2.2 Monitoring Well Development

As per DOE/HWP-100, SOP 4 and the Well Development Log form (Appendix D), well development was performed to (1) heal the well bore from drilling damage to the soil and rock units penetrated; (2) clean up the filter pack material; (3) ensure that fresh formation water was sampled. Since the annular space of this well was sealed with a cement/bentonite grout, monitoring well development was performed after the grout seal had set for a minimum of 24 hours. Well development was performed by the site geologist. Development protocols were as follows:

- Measure the static water level and total well depth.
- The well was surged with a bailer followed by removal of well water with a bailer.
- Well development continued until temperature, pH, and conductivity measurements had stabilized to within 10 percent. The water was visually clear and free of suspended solids when development was complete. The well volume included the borehole volume with an allowance for filter pack permeability (30 percent).

1.2 Aquifer Testing

Hydraulic conductivity of the shallow aquifer was determined according to the QC requirements for nonsampling activities as outlined in Section 6.5 of DOE/HWP-69/R1. Slug testing field procedures are outlined in DOE/HWP-100, SOP 6. A solid slug of known volume was rapidly withdrawn. An electric data logger and transducer were used to record the aquifer response to the "instantaneous" change in head. Procedures for obtaining this data were:

1. Measure static water level.
2. Submerge a known volume to below the well water level and allow well to recover to the static water level.
3. Simultaneously remove the slug and start the data logger test.
4. Continue the test until the water level had recovered to within 10 percent of the initial water level.

The data was analyzed in the field to verify that it compared reasonably well with expected values. The Bouwer and Rice method of quantitative analysis was used to reduce the data (Bouwer & Rice, 1976).

1.3 Site Survey

Boring locations were surveyed by a West Virginia-licensed professional surveyor. The north side of the top of the PVC was used to establish the monitoring well elevation. Surveying was completed with vertical and horizontal accuracies of 0.01 and 0.1 feet, respectively. Survey points were tied to the United States Geological Survey (USGS) Mean Sea Level Datum Plane and to the West Virginia State Plane Coordinate System. Bench marks were identified and all surveyed locations were noted on appropriate site maps.

1.4 Sample Collection Procedures

The following subsections outline the equipment and sampling procedures that were used for the collection of surface water, sediment, soil, and groundwater at the five sites under investigation, as well as background locations at the 130th AG Yeager Airport, Charleston, West Virginia. These procedures were in accordance with DOE/HWP-100, SOPs 5, 7, 8, and 9, and DOE/HWP-69/R1, Section 6.

1.4.1 Hand Auger Borings

1. The physical characteristics of the soil such as color, odor, and texture were recorded.

2. A sketch was made of the sampling location.

3. The sampling location and conditions were recorded.

4. A borehole was augered at the test site in 6-inch increments using a decontaminated stainless steel hand auger. If refusal occurred before the desired total depth was reached, then an offset boring was attempted.

5. The auger and its contents were withdrawn from the ground.

6. Each auger sample was screened with a PID. If contamination was encountered, that interval was retained in the bowl. A sample from the next 6-inch interval was retained using a decontaminated stainless steel liner in a decontaminated hand auger. If contamination was not noted, a sample was obtained using the same apparatus at the maximum depth (or at refusal).

7. Since the stainless steel liners were used for volatile sample collection, transferring of the soil sample to a sampling jar was not necessary. Immediately following removal of the liner from the auger, both ends were sealed with Teflon™ tape and plastic caps, labeled, wrapped in aluminum foil, and secured.

   After the volatile organic samples had been secured, the remaining sample was placed in the stainless steel or pyrex bowl covered with foil. Each interval was screened with a PID following boring termination and an appropriate sample interval chosen.

8. The sample was labeled, placed on ice, and logged into the bound field logbook.

1.4.2 Surface Water

To prevent cross-contamination of samples, sample collection started at locations suspected of least contamination and proceeded to locations of most contamination. If sediments were collected, surface water was taken first. The samples were collected according to the following procedures:

1. The depth of water was estimated.

2. The weather conditions and other on-site specifics were recorded.

3. The physical characteristics of the water body such as odor, color, temperature, pH, conductivity, presence of any dead fish or vegetation, and surface sheens, etc. were recorded.

4. A sketch was made of the surface water boundaries and sampling locations.

5. The sampling locations and conditions were photographed.

6. Samples were collected by inverting the sample container, lowering to the approximate sampling depth, and holding at about a 45-degree angle upstream until full.

   Volatile organic analysis (VOA) aliquots were collected first with no headspace. Samples collected for volatile organic analysis did not contain air bubbles in the VOA vial after it has been capped. All other sample containers were filled to the shoulder.

7. A final sample aliquot was placed in a disposable container and the pH, temperature, and conductivity of that sample recorded.

8. Each sample was labeled, placed on ice, and logged into a bound field logbook.

1.4.3 Sediment

Samples were collected beginning with the most downstream location and proceeding upstream. If surface waters were to be collected, they were collected first. Collection of sediment samples was according to the following procedures:

1. The physical characteristics of the stream and sediment such as color, odor, and texture were recorded.

2. A sketch of the stream water boundaries and sampling locations was made.

3. The sampling locations and conditions were photographed.

4. Equal portions of sediment were collected with a trowel or scoop at a minimum of three points in the cross-section of the ditch, and the samples were transferred into a stainless steel bowl.

5. For samples being collected for volatile organics analysis, effort was made to minimize any disturbance or mixing of the sediment, and the containers were filled as completely as possible to minimize the air space. After volatile organics were collected, the remaining samples were mixed or composited. The containers were filled at least 3/4 full for all other analyses.

6. The sample was labeled, placed on ice, and logged into the bound field logbook.

1.4.4 Soil Borings

1. The physical characteristics of the soil such as color, odor, and texture were recorded.

2. A sketch was made of the sampling locations.

3. The sampling locations and conditions were photographed.

4. The split spoon sampler was fitted with three 3-inch nominal diameter and 6-inch long California modified split spoon liners equipped with sand catchers (as needed) to minimize loss of sample.

5. In accordance with ASTM D 1586 Standard Penetration Test, the split spoon sampler was driven 18 inches into the ground at the test site using a 140-pound

hammer falling 30 inches. The blowcount required to drive the split spoon sampler was recorded.

6. The split spoon and its contents were withdrawn from the ground.

7. The aliquot being collected for volatile organic analysis was sampled first in order to minimize any volatile loss from the sample. Since the California ring sampler was used, transferring of the soil sample to a sampling jar was not necessary. The middle ring sampler was selected for volatile analysis. Immediately following removal of the sampler from the split spoon, both ends of the sampler were sealed with Teflon tape and plastic caps, labeled appropriately, wrapped in aluminum foil, and secured. After the volatile organic samples were obtained, the remainder of the soil was placed in a foil topped stainless steel bowl.

8. Following the collection of soil samples from each borehole, the samples collected from the depths exhibiting the highest volatile organic compound concentrations on the PID were chosen for laboratory analysis. A maximum of three soil samples were submitted from each borehole.

9. The samples were labeled, placed on ice, and logged into a bound field logbook.

1.4.5 Groundwater

1. The protective casing on the well was opened and the cap unlocked.

2. The air in the well head was sampled for organic vapors using a photoionization detector.

3. Using the water level indicator, the well's static groundwater level was measured and recorded. The depth to the bottom of the well was also recorded. Both measurements were recorded to the nearest 0.01 foot.

4. From the well diameter and the measured depth of the standing water, the volume of the standing water in the well was calculated. The volume was noted and recorded.

5. Purging of the well was accomplished with a bailer. Three well volumes were purged from the well. The purged volumes were estimated by discharging the purge water into a container of known volume. During the purging of each well volume, the water's temperature, conductivity, and pH were measured and recorded as it was removed from the well. Purging was discontinued when three well volumes were removed and the pH and conductivity readings were stabilized.

   The discharged water collected from each well purge was contained as described in Section 1.9.

6. Using a decontaminated bailer, two full bailers of groundwater were withdrawn

from the well. These first two bailers of sample were disposed of along with the discharged well purge water.

7. Using the same bailer and leader line, groundwater samples were collected from the well.

8. The groundwater sample was poured directly from the bailer to the appropriate sample containers.

   All sample containers were filled to the shoulder, approximately 3/4 full, except for those samples requiring volatile organic analyses. Samples collected for volatile organics analysis were collected first. For the collection of volatile organic samples in VOA vials, care was taken to ensure that there were no air bubbles in the vial after it has been capped.

   Two samples were collected for priority pollutant metals (PPM) analyses; one of which was field filtered (dissolved metals) and the other unfiltered (total metals). Filtration was performed as soon as possible after collection using a disposable 0.45 micron filter and a hand pump.

9. During sampling, a portion was placed in a disposable container and the pH, temperature, and conductivity recorded.

10. The sample was labeled, placed on ice, and logged into a bound field logbook.

11. The protective cap was replaced on the well and locked.

1.5 Field Monitoring Procedures

During sampling events, field monitoring devices were used to provide data concerning the samples being obtained. A photoionization detector allowed the determination of potential contamination and sampling intervals during borings. A pH/conductivity meter used during well development and sampling aided the determination of sufficient water removal.

1.5.1 Photoionization Detector

A photoionization detector (PID) was used to field screen subsurface soil samples collected from soil borings for a qualitative measurement of total volatile organic compounds (VOC). The PID meter was also used as a screening device to detect elevated total VOC concentrations in soil samples. Based on readings obtained on the PID, up to three soil samples were collected from

drilled borings and two samples from hand augered borings which indicated potential contamination. The PID was also used to confirm that planned termination depths for borings were sufficiently below suspected zones of VOC contamination.

1.5.2 pH/Conductivity Meter

A combination pH and conductivity meter was used during surface water and groundwater sampling and well development and purging. During surface water sampling, the meter readings were taken to determine if the physical water parameters were within expected ranges. Unexpected readings of either pH or conductivity could have indicated potential contamination and further readings would have been used to isolate and sample a source area. The pH and conductivity readings taken at both Site 1 and 2 were within acceptable ranges.

The pH/conductivity meter was used during well development and purging to determine that water removed from the well was sufficient to allow proper sampling. Following the removal of the required water volumes, the pH and conductivity were measured as water was removed until three consecutive readings were within 10 percent of each other. The stabilization of the parameters is an accepted indication that the water is representative water from the aquifer.

1.6 Decontamination Procedures

Guidelines for routine equipment decontamination used in the sample collection at hazardous waste sites are outlined in the following sections. Sampling equipment was decontaminated using the following steps:

1. The equipment was thoroughly washed with phosphate-free laboratory detergent and tap water. A brush was used to remove any particulate matter or surface film.
2. The equipment was rinsed thoroughly with tap water.
3. The equipment was rinsed thoroughly with deionized organic free (DIOF) water.
4. The equipment was rinsed with pesticide-grade methanol, and allowed to air dry.

5. A final rinse was performed with DIOF water and allowed to air dry.

6. The equipment was wrapped completely with aluminum foil to prevent contamination during storage and/or transport to the field.

1.6.1 Initial Rinse Water

Tap water from a designated potable water supply system was used for initial rinsing of field equipment. Water was obtained from the supply valve at the Motor Pool wash rack.

1.6.2 Deionized Organic Free Water

DIOF water was used for the final water rinsing of all field equipment. Organic-free water is defined as tap water that has been both deionized and treated with activated carbon. DIOF water was provided by the laboratory for decontamination and equipment blank use.

1.6.3 Other Cleaning Materials

The materials used throughout the cleaning procedures outlined in this subsection were potentially dangerous. Caution was exercised by all personnel, and all applicable safety procedures were followed. At a minimum, the following precautions were taken in the field during these cleaning operations:

- Safety glasses with splash shields or goggles, chemical resistant gloves, and appropriate protective clothing were worn during all cleaning operations.
- All solvent rinsing operations were conducted in the open.
- No eating, smoking, drinking, chewing, or any other hand-to-mouth contact was permitted during cleaning operations.

Project-specific guidelines were used when choosing proper cleaning materials. The organic solvent, laboratory detergent solutions, and rinse waters used to clean equipment were not reused. The cleaning materials are described in the following paragraphs.

Phosphate-Free Laboratory Detergent: A standard brand of phosphate-free detergent such as Liquinox™ or Alconox™ was used as the standard laboratory detergent for decontaminating field equipment.

Pesticide-Grade Solvent: Pesticide-grade methanol was used as a standard cleaning solvent.

Brushes: The use of brushes with wire-wrapped bristle was avoided due to contamination from the wire. Plastic brushes were used.

1.6.4 Large Equipment

All equipment and power tools used as non-sampling equipment (i.e., drilling equipment, well casings and screens, augers, etc.) were decontaminated before and following usage, as well as prior to removal from the site. Procedures for decontamination of non-sampling equipment followed those listed in DOE/HWP-69/R1, Subsection 6.2.1 and in DOE/HWP-100, SOP 14, Subsections 5.1 and 5.2. Large and heavy drilling equipment was steam cleaned. Light or small equipment such as hand tools were rinsed with tap water, scrubbed with a water/mild soap solution, and steam cleaned. All equipment was allowed to air dry. All equipment decontamination was performed at the Motor Pool wash rack.

All drilling and other non-sampling equipment was handled to prevent cross-contamination in the field by the use of plastic sheeting. No equipment was laid directly on the ground.

All vehicles used by M&E or the subcontractor were washed under a high pressure water spray at the conclusion of each field trip. A thorough interior and exterior cleaning was performed at the conclusion of all field investigations. This decontamination procedure consisted of steam cleaning the exterior of the vehicle and vacuuming the interior.

1.6.5 Small Equipment

Prior to field use, the cleaning procedures outlined in this section were used by M&E personnel for the cleaning of all sampling equipment that came in direct contact with the sample being collected. The QC requirements for equipment that directly contacts samples, such as split spoons, spatulas, etc., are covered in DOE/HWP-69/R1, Subsections 6.2.2 and 6.2.3; field procedures are listed in DOE/HWP-100, SOP 14, Section 5.3.

1.7 Collection of Field Quality Control Samples

During each sampling episode, a number of QC samples were collected and submitted for laboratory analysis. The number and frequency of the QC sample collection was determined by the individual project requirements and was outlined in the Quality Assurance Project Plan (QAPP) in accordance with Guidelines given in DOE/HWP-69/R1, Section 5, Table 5.1. A list of QC samples collected along with a brief description of each sample type is outlined in the following sections.

1.7.1 Source Water

A source water blank was collected from the tap water source at the Base prior to the performance of screening activities and confirmation and delineation activities, respectively. The analysis of these blanks served to document the cleanliness of water used in the initial rinse of drilling and sampling equipment. The source water blanks were analyzed for VOCs, SVOCs, priority pollutants metals, and PCBs.

1.7.2 Rinse Blanks

Equipment rinseate blanks were collected for each type of sampling equipment used when devices other than the sample bottle itself were required. The analysis of these blanks served to verify the cleanliness of the sampling equipment.

Equipment rinseate blanks were comprised of organic-free ASTM Type II reagent water or

equivalent which was placed in sample containers by the subcontracting laboratory, transported to the sample collection site, opened, poured into the sampling device following equipment decontamination procedures, transferred back to the sample bottle, and returned to the laboratory for analysis. The equipment rinseate blanks are analyzed for the same parameters as the associated samples.

One equipment rinseate blank was collected at a rate of 10 percent per matrix per event. A sampling event is considered to be from the time sampling personnel arrive at the Base until personnel leave for more than 24 hours. A total of 9 equipment rinseate blanks was collected during the Site Investigation. A summary of the rinse blanks and associated analysis taken during the field sampling event and their site locations is listed in **Table 1-1.**

TABLE 1-1
SUMMARY OF RINSE BLANKS DURING SI
130th AIRLIFT GROUP - WVANG

Sample Date	Sample Number	Sample Location	Analyses			
			VOCs	SVOCs	PCBs	PPM
13-Dec-94	WV2EB01	WV2SE01	X	X	X	X
16-Dec-94	WV1EB02	WV1HA0601	X	X		X
17-Dec-94	WV1EB03	WV1HA1001	X	X		X
18-Dec-94	WV2EB04	WV2HA0102	X	X	X	X
20-Dec-94	WV3EB05	WV3HA0101	X	X	X	X
14-Apr-95	WVBEB05	WV4SB0101	X	X	X	X
16-Apr-95	WB1EB07	WV1HA1101	X	X		X
18-Apr-95	WV2EB06	WV2SB0201	X	X	X	X
28-Apr-95	WVBEB07	WVBMW101	X	X	X	X

1.7.3 Field Duplicates

Field duplicates are defined as two samples collected independently of each other at a sampling location during a single episode of sampling. Analysis of these duplicates provides statistical information relating to sample variability and serves as a check on the precision of any sample collection method.

Field procedures for duplicate and split samples are covered in DOE/HWP-100, SOP 11. For Level C data quality, field duplicates were collected at a frequency of 10 percent of the samples collected per matrix per event, and submitted for laboratory analysis. Field duplicates were labeled in such a manner that laboratory personnel were not able to distinguish duplicates from other collected samples. A total of 16 field duplicates was collected during the Site Investigation.

1.7.4 Matrix Spikes/Matrix Spike Duplicates

Matrix Spikes (MS)/Matrix Spike Duplicates (MSD) are pairs of QA samples which are collected to ensure that compound recoveries are within the specifications required of the analysis. These samples were collected from site matrices at a rate of 1 pair per 20 samples per matrix. MS/MSDs were spiked and analyzed by the laboratory. A total of 9 MS/MSD samples was collected during the Site Investigation

1.7.5 Trip Blanks

Trip blanks were collected for chemical analysis of volatile organics. The analytical results serve as a baseline measurement of volatile organic contamination that samples may be exposed to during transport and laboratory storage prior to analysis.

Trip blanks originated in the laboratory. They consisted of organic-free ASTM Type II reagent water preserved with hydrochloric acid which was placed in sample containers by the subcontracting laboratory, transported to the site, handled along with the samples, and returned

to the laboratory along with the samples collected for volatile organic analysis. The trip blank containers were not opened in the field.

One trip blank was included in each shipping container for volatile organics analysis, was stored in the laboratory with the samples, and was analyzed by the laboratory for volatile organics only. A total of 18 trip blanks was submitted with volatile organic samples during the Site Investigation. A summary of the trip blanks used and analyzed during the field sampling event is listed in **Table 1-2.**

TABLE 1-2
SUMMARY OF TRIP BLANKS DURING SI
130th AIRLIFT GROUP - WVANG

COC Date	Sample No.	Sample Location
13-Dec-94	WV0TB01	WVOTAP01
14-Dec-94	WV1TB02	WV1SW01
15-Dec-94	WV1TB03	WV1HA0101
16-Dec-94	WV1TB04	WV1HA0401
17-Dec-94	WV1TB05	WV1HA0901
18-Dec-94	WV2TB06	WV2HA0101
20-Dec-94	WV3TB07	WV3HA0301
11-Apr-95	WV0TB08	WV0TAP02
12-Apr-95	WV3TB09	WV3SB0101
13-Apr-95	WVBTB10	WVBSB0201
14-Apr-95	WV4TB11	WV4SB0301
15-Apr-95	WV5TB12	WV5SB0301
16-Apr-95	WV1TB13	WV1HA1101
17-Apr-95	WV2TB14	WV2SB0301
18-Apr-95	WV2TB15	WV2SB0201
19-Apr-95	WV5TB16	WV5SB0402
27-Apr-95	TB427	WVBMW101
2-Jun-95	Trip Blank	WVBMW103

1.7.6 Sample Preservation

All field samples were preserved according to requirements in the Sampling and Analysis Plan. Soil samples were placed in a cooler with ice immediately after collection, then returned to the field trailer for refrigeration prior to shipment to the laboratory. All water samples received both chemical (as appropriate) and thermal preservation. Sample preservatives were received from the laboratory and stored in the field trailer. The appropriate preservative vials were assembled each day, packed in plastic bags and kept on ice until needed in the field. Samples requiring chemical preservation were preserved as shown in **Table 1-3.**

TABLE 1-3
SAMPLING PARAMETERS, CONTAINERS, AND PRESERVATION REQUIREMENTS FOR SAMPLES COLLECTED AT 130TH AIRLIFT GROUP WVANG

PARAMETER	CONTAINER	PRESERVATIVE[1]	HOLDING TIME
AQUEOUS SAMPLES			
PCBs	Two 1 liter amber glass jars with Teflon™-lined lid	Cool, 4°C	7 days from collection until extraction, analysis within 40 days of extraction
Volatile Organics [2]	Three 40-ml glass vials with Teflon™-lined lid	HCl to pH <2 Cool, 4°C	14 days from collection
Semi-volatile Organics	Two 1 liter amber glass jars with Teflon™-lined lid	Cool, 4°C	7 days from collection to extraction, analysis w/in 40 days of extraction
Dissolved Metals (filtered)	1-liter polyethylene bottle	HNO_3 to pH <2 Cool, 4°C	6 months (28 days from collection for Hg)
Total Metals (unfiltered)	1-liter polyethylene bottle	HNO_3 to pH <2 Cool, 4°C	6 months (28 days from collection for Hg)

CONTINUED ...

TABLE 1-3
SAMPLING PARAMETERS, CONTAINERS, AND PRESERVATION REQUIREMENTS FOR SAMPLES COLLECTED AT 130TH AIRLIFT GROUP WVANG

PARAMETER	CONTAINER	PRESERVATIVE[1]	HOLDING TIME
SOIL AND SEDIMENT SAMPLES			
Volatile Organics [2]	Two 40-ml glass vials or one 125-ml glass jar with Teflon™-lined lid	Cool, 4°C	14 days from collection
PCBs	250 ml glass jar with Teflon™-lined lid	Cool, 4°C	14 days from collection to extraction, analysis w/in 40 days of extraction
Semi-volatile Organics	250-ml glass jar with Teflon™-lined lid	Cool, 4°C	14 days from collection to extraction, analysis w/in 40 days of extraction
Total Metals	250-ml glass jar	Cool, 4°C	6 months (28 days from collection for Hg)
Soil Moisture Content	Polyethylene or glass	Cool, 4°C	--
CUTTINGS FROM SOIL BORING INSTALLATION			
TCLP Metals	500-ml, amber glass jar	Cool, 4°C	180 days (28 days for Hg) from collection to TCLP extraction, analysis w/in 180 days (28 days for Hg) of extraction
TCLP Pesticides/PCBs	500-ml, amber glass jar	Cool, 4°C	14 days from collection to TCLP extraction, 7 days from TCLP extraction to preparative extraction, analysis w/in 40 days of preparative extraction
TCLP Volatile Organics [2]	Four 40-mil glass vials or one 125-ml glass jar with Teflon™-lined lid	Cool, 4°C	14 days from collection to extraction, analysis w/in 14 days of extraction
TCLP Semi-volatile Organics	500-ml amber glass jar	Cool, 4°C	14 days from collection to TCLP extraction, 7 days from TCLP extraction to preparative extraction, analysis w/in 40 days of preparative extraction

(1) Sample preservation will be performed in the field immediately upon sample collection. Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that the samples may be held before analysis and still be considered valid.
(2) All samples for volatile analyses shall be filled without headspace.

1.8 Sample Handling and Shipping

The QC requirements with regard to sample handling complied with DOE/HWP-69/R1, Section 6.3. Following sample collection, all samples were brought to the office trailer for batching and paperwork checks. Like sample types were matched (i.e., solids, liquids, etc.) with similar sample types from all sample locations. Labels and log information were checked to be sure there was no error in sample identification. The samples were packaged to prevent breakage and/or leakage, and the shipping containers were labeled in accordance with the Department of Transportation (DOT) regulations for transport.

The laboratory was notified by telephone of each sample shipment along with the estimated time of arrival. All samples were shipped directly to the laboratory via overnight carrier. The field team transported the packages to the shipping office. For each sample shipment an overnight airbill was properly completed. All environmental samples collected were treated as non-hazardous aqueous liquids and non-hazardous soil.

The QC requirements for shipping are addressed in DOE/HWP-69/R1, Section 6.4. Because of the non-hazardous nature of the collected samples, packaging and shipping criteria were designed only to maintain chain-of-custody protocols as well as to prevent breakage of the sample containers. The packaging and shipping procedures were as follows:

- A layer of cushioning material was placed in the bottom of the watertight, insulated metal or equivalent strength plastic shipping containers.
- The properly labeled and secured glass sample bottles and purgeable vials were wrapped with plastic bubble wrap. The wrapped containers were placed into watertight zip lock bags and the bags closed.

- The sample bottles were placed (top side up) into the shipping container arranging the bottles so that the glass bottles were surrounded by plastic bottles.

- Using the necessary packing material, the sample bottles were packed to ensure that they did not shift during transport.

- Any void spaces of the shipping container were filled, around and on top of the sample bottles, with ice cubes sealed in plastic bags. The ice was of sufficient quantity to maintain a sample temperature of 4°C.

- The chain-of-custody form was sealed in a zip-lock plastic bag, and taped securely to the inside of the shipping container lid.

- The shipping container was closed and locked. The drain plug of the cooler was taped closed to prevent any leakage of water as the ice packs melted during transport.

- Several wraps of chain-of-custody tape were placed around the shipping containers to ensure that the lid remained closed if the latch was accidentally released or damaged during shipment.

- A completed overnight carrier airbill was placed on the lid of the shipping container. The name, address, and telephone number of the receiving laboratory and the return address and telephone number of the shipper was included on the airbill and a separate label.

2.0 LABORATORY ANALYSES AND QUALITY CONTROL

Metcalf & Eddy contracted with a HAZWRAP-approved laboratory, National Environmental Testing, Inc. (NET), located in Bedford, Massachusetts, to perform the required analysis of various soil, water, and sediment samples. This section discusses the various stages of analytical methods, data management, data reduction, data validation, quality control and data evaluation applied to the samples and data collected during this Site Investigation (SI).

2.1 Analytical Methods

The analytical methods chosen for this SI reflect a variety of contaminants of concern at each particular site. The general class of compounds analyzed during this field investigation included

the Target Compound List (TCL) volatile and semivolatile organics, Priority Pollutant Metals, and PCBs. For some sites, all samples were not analyzed by all methods. TCL volatiles and semivolatiles were analyzed by gas chromatograph/mass spectrophotometer (GC/MS) using protocols detailed in the USEPA Contract Laboratory Program (CLP). Inorganics were analyzed by Inductively Coupled Plasma (ICP) and Graphite Furnace Atomic Absorption (GFAA). PCBs were analyzed by Gas Chromatography using a Electron Capture Detector (ECD), which is specific for organochlorine compounds. **Table 2-1** lists the analytical methods used. These methods were required to meet HAZWRAP analytical requirements.

2.1.1 Reporting Limits

Reporting limits or Contract Required Quantitation Limits (CRQL) are established for each potential contaminant and are based on technically achievable concentration levels and the CLP CRQL. **Tables 2-2, 2-3, 2-4 and 2-5** list the individual parameters analyzed by compound class and their reporting limits or CRQL for water and soil results presented in this site investigation report.

TABLE 2-1
STANDARD ANALYTICAL METHODS

	Method	
Analysis	**Water**	**Soil/Sediments**
TCL Volatile Organics	CLP (10/92)	CLP (3/90)
TCL Semivolatile Organics	CLP (3/90)	CLP (3/90)
Polychlorinated biphenyls	CLP (3/90)	CLP (3/90)
Priority Pollutant Metals	CLP (OLM01.9)	CLP (OLM01.9)
FIELD ANALYSES: Temperature Specific Conductivity pH	 EPA 170.1 EPA 120.1 EPA 150.1	 -- -- --

USEPA Method Reference
E - Methods for Chemical Analysis of Water and Wastes, EPA-600/4/79-020, March, 1983.
CLP- Contract Laboratory Program, 3/90 Statement of Work for Multi-media/multi-concentration, USEPA, OLM01.0.

TABLE 2-2
CONTRACT REQUIRED QUANTITATION LIMITS
FOR VOLATILE ORGANIC COMPOUNDS

	Quantitation Limit *	
Compound	**Water µg/L**	**Soil µg/kg**
Chloromethane	1	10
Bromomethane	1	10
Vinyl Chloride	1	10
Chloroethane	1	10
Methylene Chloride	2	10
Acetone	2	10
Carbon Disulfide	1	10
1, 1-Dichloroethene	1	10
1,1-Dichloroethane	1	10
1,2-dichloroethene (total)	1	10
Chloroform	1	10
1,2-Dichloroethane	1	10
2-Butanone	5	10
1,1,1-Trichloroethane	1	10
Carbon Tetrachloride	1	10
Bromodichloromethane	1	10
1, -Dichloropropane	1	10
cis-1,3-Dichloropropene	1	10
Trichloroethene	1	10
Dibromochloromethane	1	10
1,1,2-Trichloroethane	1	10
Benzene	1	10
Trans-1,3-Dichloropropene	1	10
Bromoform	1	10
4-Methyl-2-Pentanone	5	10
2-Hexanone	5	10
Tetrachloroethene	1	10
1,1,2,2-Tetrachloroethane	1	10
Toluene	1	10
Chlorobenzene	1	10
Ethylbenzene	1	10
Styrene	1	10
Total Xylenes	1	10
1,2-Dibromo-3-chloropropane	1	NA
1,4-Dichlorobenzene	1	NA
1,2-Dichlorobenzene	1	NA
1,3-Dichlorobenzene	1	NA

* CRQL for Water Analysis Only, using CLP SOW -10/92, Superfund low concentrations for analysis of water.

NA - Not Analyzed

TABLE 2-3
CONTRACT REQUIRED QUANTITATION LIMITS
FOR SEMIVOLATILE ORGANIC COMPOUNDS

	Quantitation Limit	
Compound	**Water µg/L**	**Soil µg/kg**
Phenol	10	330
bis(2-Chloroethyl)Ether	10	330
2-Chlorophenol	10	330
1,3-Dichlorobenzene	10	330
1,4-Dichlorobenzene	10	330
1,2-Dichlorobenzene	10	330
2-Methylphenol	10	330
2,2'-oxybis(1-Chloropropane)	10	330
4-Methylphenol	10	330
N-Nitroso-Di-n-Propylamine	10	330
Hexachloroethane	10	330
Nitrobenzene	10	330
Isophorone	10	330
2-Nitrophenol	10	330
2,4-Dimethylphenol	10	330
bis(2-Chloroethoethoxy)Methane	10	330
2,4-Dichlorophenol	10	330
1,2,4-Trichlorobenzene	10	330
Naphthalene	10	330
4-Chloroaniline	10	330
Hexachlorobutadiene	10	330
4-Chloro-3-Methylphenol	10	330
2-Methylnaphthalene	10	330
Hexachlorocyclopentadiene	10	330
2,4,60Trichlorophenol	25	800
2,4,5-Trichlorophenol	10	330
2-Chloronaphthalene	25	800
2-Nitroaniline	10	330
Dimethyl Phthalate	10	330
Acenaphthylene	10	330
2,6-Dinitrotoluene	25	800
3-Nitroaniline	10	330
Acenaphthene	25	800
2,4-Dinitrophenol	25	800
4-Nitrophenol	10	330
Dibenzofuran	10	330
2,4-Dinitrotoluene	10	330
Diethylphthalate	10	330
4-Chlorophenol-phenylether	10	330
Fluorene	25	800
4-Nitroaniline	25	800
4,6-Dinitro-2-Methylphenol	10	330
N-Nitrosodiphenylamine(1)	10	330
4-Bromophenyl-phenylether	10	330
Hexachlorobenzene	25	800
Pentachlorophenol	10	330
Phenanthrene	10	330
Anthracene	10	330
Carbazole	10	330
Di-n-Butylphthalate	10	330
Fluoranthene	10	330
Pyrene	10	330
Butylbenzylphthalate	10	330
3,.3'-Dichlorobenzidine	10	330
Benzo(a)Anthracene	10	330
Chrysene	10	330
bis(2-Ethylhexyl)Phthalate	10	330
Di-n-OctylPhthalate	10	330
Benzo(b)Fluoranthene	10	330
Benzo(k)Fluoranthene	10	330
Benzo(a)Pyrene	10	330
Indeno(1,2,3cd)Pyrene	10	330
Dibenzo(a,h)Anthracene	10	330
Benzo(g.h.i)Perylene	10	330

TABLE 2-4
REPORTING LIMITS FOR PCBs

Compound	Reporting Limit	
	Water µg/L	Soil µg/kg
PCBs (AROCHLORS):		
1016	0.5	33
1221	1.0	67
1232	0.5	33
1242	0.5	33
1248	0.5	33
1254	0.5	33
1260	0.5	33

TABLE 2-5
QUANTITATION LIMITS FOR INORGANIC COMPOUNDS

Compound	Quantitation Limit	
	Water µg/L	Soil mg/kg
Antimony	25	6
Arsenic	2	10
Berillium	1	5
Cadmium	3	5
Chromium	6	10
Copper	3	25
Lead	2	3
Mercury	0.2	0.2
Nickel	15	40
Selenium	2	0.5
Silver	3	10
Thallium	2	0.2
Zinc	5	15

2.2 Data Management

A sample coding system was applied to all environmental samples collected during the sampling procedures. Sample designations indicate the site location, site identifier, sample collection technique/matrix, sample location, and number of samples collected at each location.

2.2.1 Sample Designation

An example of the sample designation format used is depicted below:

FIELD SAMPLE DESIGNATION

WV	1	*HA*	*01*	*01*
1	2	3	4	5

IDENTIFICATION KEY

1 - Site Location

WV = West Virginia Air National Guard

2 - Site Identifier

B = Background
1 = Site #1

3 - Sample Collection Technique / Matrix

HA = Hand Auger
MW = Monitoring Well
SB = Soil Boring
SE = Sediment

SW = Surface Water
TAP = Tap Water
EB = Equipment Blank
TB = Trip Blank

4 - Sample Location

01, 02, 03 ....

5 - Number of Samples Collected at Location

01, 02, 03 ....

Quality control samples such as trip blanks and equipment blanks have numeric designations following the sample collection technique/matrix designators. Each of these particular samples was numbered consecutively as it was obtained and corresponds to individual coolers, sample matrices or sample technique.

Duplicate samples were assigned a number beginning with 50 and were numbered consecutively as they were collected to ensure discrete sample identity. Field duplicates were logged into the field notebooks along with the corresponding field sample.

2.2.2 Chronology of Sample Collection

All environmental samples were collected in a logical sequence as determined in the initial sampling schedule. This logic was based on sampling method, expected level of contamination, site accessibility and weather conditions. **Table 2-6** lists the environmental field samples and associated quality control samples collected during the field investigation and the analyses required for each.

2.3 Data Reduction

TABLE 2-6

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV0-TB01	1279	DI	TB	12/13/94	12/13/94	01/06/95	X						
WV2-EB01	1279	DI	SE/EB	12/13/94	12/13/94	01/06/95	X	X	X	X			
WV0-TAP01	1279	Water	TAP	12/13/94	12/13/94	01/06/95	X	X	X	X			
WV1-TB02	1279	DI		12/14/94	12/14/94	01/06/95	X						
WV1-SW01	1279	SW		12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW01	1279	SW		12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW02	1279	SW		12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW02MS	1279	SW	MS	12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW02MSD	1279	SW	MSD	12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW03	1279	SW		12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-50	1279	SW	SW/DUP	12/14/94	12/14/94	01/06/95	X	X	X	X			
WV2-SW04	1279	SW		12/14/94	12/14/94	01/06/95	X	X	X	X			
WV1-SE01	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV1-SE02	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE01	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE02	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE02MS	1280	Sediment	MS	12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE02MSD	1280	Sediment	MSD	12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE03	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV2-51	1280	Sediment	SE/DUP	12/14/94	12/14/94	01/13/95	X	X		X			
WV2-SE04	1280	Sediment		12/14/94	12/14/94	01/13/95	X	X		X			
WV1-HA0101	1280	Soil		12/15/94	12/15/94	01/13/95	X	X	X	X			
WV1-HA0102	1280	Soil		12/15/94	12/15/94	01/13/95	X	X	X	X			
WV1-HA0201	1280	Soil		12/15/94	12/15/94	01/13/95	X	X	X	X			
WV1-52	1280	Soil	HA/DUP	12/15/94	12/15/94	01/13/95	X	X		X			
WV1-HA0202	1280	Soil		12/15/94	12/15/94	01/13/95	X	X		X			
WV1-HA0301	1280	Soil		12/15/94	12/15/94	01/13/95	X	X		X			
WV1-HA0302	1280	Soil		12/15/94	12/15/94	01/13/95	X	X		X			
WV1-TB03	1280	DI	TB	12/16/94	12/16/94	01/13/95	X						
WV1-HA0401	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			

TABLE 2-6, continued

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV1-HA0402	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0501	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0501MS	1281	Soil	MS	12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0501MSD	1281	Soil	MSD	12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0502	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0601	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0602	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-TB04	1281	DI	TB	12/16/94	12/16/94	01/25/95	X						
WV1-EB03	1281	DI	HA/EB	12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0701	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-HA0702	1281	Soil		12/16/94	12/16/94	01/25/95	X	X		X			
WV1-TB05	1281	DI	TB	12/17/94	12/17/94	01/25/95	X						
WV1-EB02	1281	DI	HA/EB	12/17/94	12/17/94	01/25/95	X	X	X	X			
WV1-HA0801	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV1-HA0802	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV1-HA0901	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV1-53	1281	Soil	HA/DUP	12/17/94	12/17/94	01/25/95	X	X		X			
WV1-HA0902	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV1-HA1001	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV1-HA1002	1281	Soil		12/17/94	12/17/94	01/25/95	X	X		X			
WV2-TB06	1282	DI	TB	12/18/94	12/18/94	01/25/95	X						
WV2-EB04	1282	DI	HA/EB	12/18/94	12/18/94	01/25/95	X	X		X			
WV2-HA0101	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-54	1282	Soil	HA/DUP	12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0102	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0201	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0201MS	1282	Soil	MS	12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0201MSD	1282	Soil	MSD	12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0202	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0301	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			
WV2-HA0401	1282	Soil		12/18/94	12/18/94	01/25/95	X	X	X	X			

TABLE 2-6, continued

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV2-EB06	1371	DI	HA/EB	12/18/94	12/18/94	05/26/95	X	X	X	X			
WV2-HA0501	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-HA0502	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV3-HA0201	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV3-HA0202	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-HA0601	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-55	1282	Soil	HA/DUP	12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-HA0602	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-HA0701	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV2-HA0801	1282	Soil		12/19/94	12/19/94	01/25/95	X	X	X	X			
WV3-TB07	1298	DI	TB	12/20/94	12/20/94	01/25/95	X						
WV3-EB05	1298	DI	HA/EB	12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-HA0101	1298	Soil		12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-HA0301	1298	Soil		12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-HA0301MS	1298	Soil	MS	12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-HA0301MSD	1298	Soil	MSD	12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-56	1298	Soil	HA/DUP	12/20/94	12/20/94	01/25/95	X	X	X	X			
WV3-HA0302	1298	Soil		12/20/94	12/20/94	01/25/95	X	X	X	X			
WV0-TB08	1371	DI	TB	4/11/95	4/11/95	05/26/95	X						
WV0-TAP02	1371	Water	TAP	4/11/95	4/11/95	05/26/95	X	X	X	X			
WV1SW0102	1371	Water		4/11/95	4/11/95	05/26/95	X	X	X	X			
WV1-SW0102MS	1371	Water	MS	4/11/95	4/11/95	05/26/95	X	X	X	X			
WV1-SW0102MSD	1371	Water	MSD	4/11/95	4/11/95	05/26/95	X	X	X	X			
WV2-SW05	1371	Water		4/11/95	4/11/95	05/26/95	X	X	X	X			
WV2-65	1371	Water	DUP	4/11/95	4/11/95	05/26/95	X	X	X	X			
WV2-SW106	1371	Water		4/12/95	4/12/95	05/26/95	X	X	X	X			
WV3-TB09	1371	DI	TB	4/12/95	4/12/95	05/26/95	X						
WVB-SB0101	1372	Soil		4/12/95	4/12/95	05/25/95	X	X	X	X			

TABLE 2-6, continued

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV3-SB0101	1372	Soil		4/12/95	4/12/95	05/25/95	X	X	X	X			
WV3-SB0101MS	1372	Soil	MS	4/12/95	4/12/95	05/25/95	X	X	X	X			
WV3-SB0101MSD	1372	Soil	MSD	4/12/95	4/12/95	05/25/95	X	X	X	X			
WV3-SB0102	1372	Soil	DUP	4/12/95	4/12/95	05/25/95	X	X	X	X			
WVB-SB0201	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WVB-SB0301	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WVB-57	1372	Soil	DUP	4/13/95	4/13/95	05/25/95	X	X	X	X			
WV3-TB10	1372	DI	TB	4/13/95	4/13/95	05/25/95	X						
WV3-SB0103	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WV3-SB0201	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WV3-SB0202	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WV3-SB0203	1372	Soil		4/13/95	4/13/95	05/25/95	X	X	X	X			
WVB-EB05	1371	DI	EB	4/14/95	4/14/95	05/26/95	X	X	X	X			
WV3-SB0301	1372	Soil		4/14/95	4/14/95	05/25/95	X	X	X	X			
WV3-58	1372	Soil	DUP	4/14/95	4/14/95	05/25/95	X	X	X	X			
WV3-SB0302	1372	Soil		4/14/95	4/14/95	05/25/95	X	X	X	X			
WV3-SB0303	1373	Soil		4/14/95	4/14/95	06/07/95	X	X	X	X			
WV4-TB11	1373	DI	TB	4/14/95	4/14/95	06/07/95	X						
WV4-SB0101	1373	Soil		4/14/95	4/14/95	06/07/95	X	X					
WV4-SB0102	1372	Soil		4/14/95	4/14/95	05/25/95	X	X					
WV4-SB0201	1373	Soil		4/14/95	4/14/95	06/07/95	X	X					
WV4-SB0202	1372	Soil		4/14/95	4/14/95	05/25/95	X	X					
WV4-SB0203	1372	Soil		4/14/95	4/14/95	05/25/95	X	X					
WV4-SB0301	1373	Soil		4/14/95	4/14/95	06/07/95	X	X					
WV4-59	1372	Soil	DUP	4/14/95	4/14/95	05/25/95	X	X					
WV4-SB0302	1372	Soil		4/14/95	4/14/95	05/25/95	X	X					
WV4-SB0303	1372	Soil		4/14/95	4/14/95	05/25/95	X	X					
WV5-TB12	1373	DI	TB	4/15/95	4/15/95	06/07/95	X						
WV5-SB0101	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0102	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			

TABLE 2-6, continued

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV5-SB0201	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0201MS	1373	Soil	MS	4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0201MSD	1373	Soil	MSD	4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0202	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0203	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0301	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-61	1373	Soil	DUP	4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0302	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV5-SB0401	1373	Soil		4/15/95	4/15/95	06/07/95	X	X	X	X			
WV1-TB13	1371	DI	TB	4/16/95	4/17/95	05/26/95	X						
WV1-EB07	1371	DI	HA/EB	4/16/95	4/17/95	05/26/95	X	X		X			
WV1-HA1101	1377	Soil		4/16/95	4/17/95	06/01/95	X	X		X			
WV1-HA1102	1377	Soil		4/16/95	4/17/95	06/01/95	X	X		X			
WV1HA1201	1377	Soil		4/16/95	4/17/95	06/01/95	X	X		X			
WV1-62	1377	Soil	DUP	4/16/95	4/17/95	06/01/95	X	X		X			
WV2-TB14	1377	DI	TB	4/17/95	4/17/95	06/01/95	X						
WV2-SB0101	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0102	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0103	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0301	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0301MS	1377	Soil	MS	4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0301MSD	1377	Soil	MSD	4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-60	1377	Soil	DUP	4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0302	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-SB0303	1377	Soil		4/17/95	4/17/95	06/01/95	X	X	X	X			
WV2-TB15	1377	DI	TB	4/18/95	4/18/95	06/01/95	X						
WV2-SB0201	1377	Soil		4/18/95	4/18/95	06/01/95	X	X	X	X			
WV2-SB0202	1377	Soil		4/18/95	4/18/95	06/01/95	X	X	X	X			
WV2-SB0203	1377	Soil		4/18/95	4/18/95	06/01/95	X	X	X	X			

TABLE 2-6, continued

CHRONOLOGY OF SAMPLE COLLECTION

West Virginia Air National Guard – Yeager Airport
Charleston, West Virginia

Sample Identification	FD #	Sample Matrix	QA/QC Sample	Sample Date	Ship Date	Report Date	VOC CLP	SVOC CLP	PCBs CLP	Priority Pollutant Metals		TCLP 1311	TC
										Total	Dissolved		
WV5-TB16	1377	DI	TB	4/19/95	4/19/95	06/01/95	X						
WV5-SB0402	1377	Soil		4/19/95	4/19/95	06/01/95	X	X	X	X			
WV5-SB0403	1377	Soil		4/19/95	4/19/95	06/01/95	X	X	X	X			
WV5-SB0501	1377	Soil		4/19/95	4/19/95	06/01/95	X	X	X	X			
WV5-SB0502	1377	Soil		4/19/95	4/19/95	06/01/95	X	X	X	X			
WV5-SB0503	1377	Soil		4/19/95	4/19/95	06/01/95	X	X	X	X			
WVB-SC01		Soil		4/19/95	4/19/95							X	
WV2-SC01		Soil		4/19/95	4/19/95							X	
WV3-SC01		Soil		4/19/95	4/19/95							X	
WV4-SC01		Soil		4/19/95	4/19/95							X	
WV5-SC01		Soil		4/19/95	4/19/95							X	
WV0-DS01		Sediment		4/19/95	4/19/95							X	
WV0-DW01		Water		4/19/95	4/19/95							X	X
WV0-DW02		Water		4/19/95	4/19/95							X	X
TB-427	1389	DI	TB	04/26/95	04/28/95	06/07/95	X						
WVB-EB07	1389	DI	EB	04/27/95	04/28/95	06/07/95	X	X	X	X			
WVBMW01	1389	Water		04/27/95	04/28/95	06/07/95	X	X	X	X			
WVBMW01MS	1389	Water	MS	04/27/95	04/28/95	06/07/95	X	X	X	X			
WVBMW01MSD	1389	Water	MSD	04/27/95	04/28/95	06/07/95	X	X	X	X			
WVB66	1389	Water	DUP	04/27/95	04/28/95	06/07/95	X	X	X	X			
DMW01	1390	Water	Dissolved	04/27/95	04/28/95	06/03/95				X			
DMWB66	1390	Water	Dissolved	04/27/95	04/28/95	06/03/95				X			
TRIPBLANK	1437	DI	TB	06/02/95	06/02/95	07/11/95	X						
WVBMW102	1437	Water		06/02/95	06/02/95	07/11/95	X	X	X	X			
WVBMW102MS	1437	Water	MS	06/02/95	06/02/95	07/11/95	X	X	X	X			
WVBMW102MSD	1437	Water	MSD	06/02/95	06/02/95	07/11/95	X	X	X	X			
WVBMW103	1437	Water		06/02/95	06/02/95	07/11/95	X	X	X	X			

Analytical data was received from the laboratory in both hard copy and diskette format. A Level C package was the required deliverable used for data validation activities. The hard copy data package contained all the necessary information, chromatograms, QC information, chain-of-custody forms and specific tracking documentation required for data validation. In addition, a diskette containing analytical results, arranged by analytical method and sample delivery group (SDG) was provided for each sample analyzed. The Laboratory Information Management System (LIMS) generates the data through Formaster, a software program supplied by USEPA and modified by the laboratory for use in their own data management systems. This information is then converted to a format which is imported into a Lotus file. The analytical data summaries provided in Section 4 of the report have been prepared by M&E using the converted laboratory file. This file is modified slightly to eliminate redundancy and to allow for inclusion of additional flagging codes assigned during data validation.

2.4 Data Validation

To comply with HAZWRAP quality assurance and quality control requirements, all analytical data were evaluated. Evaluation and validation of field data included equipment rinsates, field blanks, trip blanks, sample duplicates, MS/MSD samples and internal laboratory quality control results to assess the quality of field sampling and laboratory methods. HAZWRAP Level C validation guidelines were used to validate the precision and accuracy of all environmental measurement data generated for this SI. The protocols for data validation of analytical data followed the requirements detailed in the HAZWRAP document DOE/HWP-65/R1, July 1990.

2.4.1 Data Qualifiers

The data validation process performed by M&E required use of data qualifiers. In addition, CLP protocols require the use of flagging codes which are applied by the laboratory to the analytical results. These codes indicate any problems encountered during the analysis of

individual samples. These flags are indicated in the analytical data summary results for each compound analyzed. An example of a flag applied by the laboratory is the "B" flag which indicates that the analyte detected may also have been detected in the method blank as well as the sample.

An additional data qualifier is applied as a result of M&E data validation and is also listed in the data summary results in a separate column. These data qualifiers indicate data useability based on a complete validation of all analytical method protocols and field quality control sample evaluation. The following data qualifiers were applied to analytical data as a result of validation:

U - The compound was analyzed for but not detected and the associated result is the sample quantitation limit.

J - The associated numerical value is an estimated quantity, analytical results are useable but with some reservation.

R - The data are unusable, compound may or may not be present. Resampling and reanalysis is necessary for verification.

UJ - The compound was analyzed for, but was not detected and the analytical quantitation limit is an estimated quantity.

2.4.2 Data Validation Summary

Validation for volatiles (VOC), semivolatiles (SVOC), polychlorinated biphenyls (PCBs), and metals were completed according to the requirements outlined in the HAZWRAP document DOE/HWP-65/R1, July 1990. **Table 2-6** lists the number of field samples, QC samples, and the analyses performed for this SI.

Volatiles

Several non-detect sample results were qualified as estimated (UJ) because the contaminants detected were not ten times greater than the amount in the associated blanks. Acetone was qualified as undetected (U) for twenty soil samples because it was present in an associated blank. In addition, acetone was qualified as estimated (J) for one water and two soil samples and qualified as rejected (R) for two water samples and seventeen blanks because the initial and/or continuing calibration was outside of QC limits. 2-Butanone was qualified as estimated (J) for two water samples and qualified as rejected (R) in five water samples and seventeen blanks because the initial and/or continuing calibration was outside of QC limits. 2-Hexanone was qualified as rejected (R) in one water sample and six blanks because the initial and/or continuing calibration was outside of QC limits. Methylene chloride was qualified as undetected (U) for thirty soil, five sediment and two water samples because it was present in an associated blank. 1,2-Dichlorobenzene and toluene were qualified as undetected (U) for one water sample and 1,4-dichlorobenzene was qualified as undetected (U) for two water samples because they were also present in an associated blank.

Semivolatiles

Several non-detect sample results were qualified as estimated (UJ) because the contaminants detected were not ten times greater than the amount in the associated blanks. Bis(2-Ethylhexyl)phthalate was qualified as undetected (U) for eleven soil and one water sample and di-n-butylphthalate was qualified as undetected (U) for nine soil samples because they were present in an associated blank. 2,4-Dinitrophenol was qualified as rejected (R) for two water samples and 2,2'-oxybis(1-chloropropane) was qualified as rejected (R) for one soil, one water sample and one blank because the initial and/or continuing calibration was outside QC limits.

PCBs

All but two samples contained non-detected compounds and no qualifications were required on any of these samples.

Metals

Several non-detect sample results were qualified as estimated (UJ) because the contaminants detected were not five times greater than the amount in the associated blanks. Several results for beryllium, lead, selenium and thallium were qualified as estimated (J) because the associated matrix spike recoveries were greater than 30% but less than 75%. Several results for arsenic and silver were qualified as rejected (R) because the associated matrix spike recoveries were less than 30%. If the sample results for antimony and arsenic were not qualified as rejected (R) due to the associated matrix spike recoveries being less than 30%, they were qualified as estimated (J) because their matrix spike recoveries were greater than 30% but less than 75%. In a few cases, cadmium was qualified as estimated because it was present in the associated blank or the duplicate RPD was outside of QC limits. Lead and thallium were infrequently qualified as (J) because the associated post digestion spike was outside of QC limits. In the water samples, the analytes copper, silver and zinc were qualified as estimated (J) because they were present in the method blank. In the dissolved water samples, arsenic, lead and thallium were qualified as estimated (J) because the associated post digestion spike was outside of QC limits. In a few instances mercury was qualified as estimated (J) because the associated matrix spike recoveries were greater than 125%.

2.5 Quality Control Summary

A summary of the number and type of sample analyses and validation is presented in **Table 2-6**, Data validation is discussed in Section 2.6.

A discussion of the analytical results of the field quality control samples are discussed in Section 2.5.4 along with the results of the individual field samples for each site.

2.5.1 Trip Blanks

Each cooler with volatile organics samples was shipped to the laboratory with a trip blank. These samples were analyzed for the same VOCs as the field samples and evaluated for potential volatile organic contamination from external sources.

Seventeen trip blanks were analyzed for VOCs by CLP protocols. Acetone was present in ten of the trip blanks at or above the detection limit and was also found in two of the associated method blanks. Methylene chloride was present in every trip blank (ten of which were at or above the detection limit) and was also found in nine of the associated method blanks. 2-Butanone, 1,2-dibromoethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene, toluene and 1,1,2-trichloroethane were also detected in the trip blanks. All of these results were reported below the detection limit and were qualified as estimated. A summary of the constituents detected in the trip blanks is listed in **Table 2-7**.

2.5.2 Rinse Blanks

Equipment rinse blanks were collected after decontamination of sampling equipment and before sample collection, when devices other than sample bottles were required. Nine equipment rinse blanks were analyzed for the same constituents as the field samples. Acetone was present in three of the rinse blanks above the detection limit. Methylene chloride, a common laboratory contaminant, was present in every equipment rinse blank except WV2EB04 and all results were reported below the detection limit.

TABLE 2-7
SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN BACKGROUND TRIP BLANKS

SAMPLE ID	TRIPBLANK	TB427
SAMPLE DATE	06/02/95	04/27/95
MATRIX	DI	DI
UNITS	ug/L	ug/L
VOLATILE ORGANICS		
1,2-Dibromoethane	0.1 BJ	
Methylene chloride	3 B	0.6 BJ
Toluene	0.2 J	
1,1,2-Trichloroethane	0.2B J	

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #0

SAMPLE ID	WV0-TB01	WV0TB08
SAMPLE DATE	12/13/94	04/11/95
MATRIX	DI	DI
UNITS	ug/L	ug/L
VOLATILE ORGANICS		
Acetone	1 J	2 J
2-Butanone		1 J
Methylene chloride	0.5 BJ	3 B

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #1

SAMPLE ID	WV1TB02	WV1TB03	WV1TB04	WV1TB05	WV1TB13
SAMPLE DATE	12/14/94	12/16/94	12/16/94	12/17/94	04/16/95
MATRIX	DI	DI	DI	DI	DI
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
VOLATILE ORGANICS					
Acetone					4 J
2-Butanone					4 J
1,2-Dibromoethane			0.2 J		
1,2-Dichlorobenzene					0.1 J
1,4-Dichlorobenzene			0.2 J		
Methylene chloride	0.4 BJ	0.4 BJ	0.4 J	0.5 J	3 B

( ) - WHERE RESULT IS BLANK THE CONSTIUENT IS NOT DETECTED
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED

TABLE 2–7 (Cont.)

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #2

SAMPLE ID	WV2TB06	WV2TB14	WV2TB15
SAMPLE DATE	12/18/94	04/17/95	04/18/95
MATRIX	DI	DI	DI
UNITS	ug/L	ug/L	ug/L
VOLATILE ORGANICS			
Acetone		4 J	3 J
Methylene chloride	0.8 J	3	3 B

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #3

SAMPLE ID	WV3TB07	WV3TB09	WV3TB10
SAMPLE DATE	12/20/94	04/12/95	04/13/95
MATRIX	DI	DI	DI
UNITS	ug/L	ug/L	ug/L
VOLATILE ORGANICS			
Acetone	3 BJ		3 BJ
2–Butanone	1 BJ	1 J	1 BJ
Methylene chloride	0.7 BJ	3	3 J

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #4

SAMPLE ID	WV4TB11
SAMPLE DATE	04/14/95
MATRIX	DI
UNITS	ug/L
VOLATILE ORGANICS	
Acetone	3 J
Methylene chloride	2 J

SUMMARY OF CONSTITUENTS DETECTED IN TRIP BLANKS AT SITE #5

SAMPLE ID	WV5TB12	WV5TB16
SAMPLE DATE	04/15/95	04/19/95
MATRIX	DI	DI
UNITS	ug/L	ug/L
VOLATILE ORGANICS		
Acetone	4 J	1 J
2–Butanone		1 J
Methylene chloride	3	3 B

( ) – WHERE RESULT IS BLANK THE CONSTIUENT IS NOT DETECTED
B – ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J – RESULT ESTIMATED

Equipment rinse blank WV2EB01, the only rinse blank associated with the source water, contained trihalomethanes. 2-Butanone, carbon disulfide and 1,2- dichlorobenzene were also detected in the rinse blanks. All of these results were reported below the detection limit and were qualified as estimated. The common semivolatile contaminant bis(2-ethylhexyl)phthalate was present in rinse blank WV2EB01 and all of its associated sediment samples. All of these results were reported below the detection limit, with the exception of WV2SE02 (0.97 mg/kg).

Nitrobenzene was present, below the detection limit, in the background rinse blank WVBEB05 and in WV1EB07 and both were qualified as estimated. Nitrobenzene was not detected in any other samples or blanks. PCBs were not detected in any of the rinse blanks.

Metals were present in at least one rinse blank from each site. Cadmium, copper, lead, mercury, silver and zinc were detected, however, in each instance the metals were found in the associated method blanks or reported below the detection limit and were qualified as estimated. A summary of the constituents detected in the rinse blanks is listed in **Table 2-8.**

2.5.3 Source Water Blanks

One source water blank was analyzed for the same constituents as the field samples.
Acetone, 2-butanone, methylene chloride and trihalomethanes were present in this blank. All results were reported below the detection limit and qualified as estimated. A summary of constituents detected in the source water blanks is listed in **Table 2-9.**

2.5.4 Field Duplicates

Fifteen field duplicates were collected and analyzed for the same constituents as the field samples. Three field duplicates were collected with the water samples, one for sediment samples and eleven field duplicates were collected for soil samples.

TABLE 2-8
SUMMARY OF CONSTITUENTS DETECTED IN RINSE BLANKS
West Virginia Air National Guard

SUMMARY OF CONSTITUENTS DETECTED IN RINSE BLANKS IN BACKGROUND LOCATIONS

SAMPLE ID	WV5EB05	WV5EB07
SAMPLE DATE	04/14/95	04/20/95
MATRIX	DI	DI
UNITS	ug/L	ug/L
PCBS	U	U
VOLATILE ORGANICS		
Methylene chloride	0.3 J	0.2 BJ
SEMIVOLATILE ORGANICS		U
Nitrobenzene	2 J	
PRIORITY POLLUTANT METALS		U
Cadmium	3.3 B	
Zinc	10.3 B	

SUMMARY OF CONSTITUENTS DETECTED IN RINSE BLANKS AT SITE #1

SAMPLE ID	WV1EB02	WV1EB03	WV1EB07
SAMPLE DATE	12/17/94	12/18/94	04/18/95
MATRIX	DI	DI	DI
UNITS	ug/L	ug/L	ug/L
PCBS	NA	NA	NA
VOLATILE ORGANICS			
Acetone			3 J
Carbon Disulfide			0.1 J
1,2-Dichlorobenzene			0.3 J
Methylene chloride	0.3 J	0.2 J	0.4 J
SEMIVOLATILE ORGANICS	U	U	
Nitrobenzene			1 J
PRIORITY POLLUTANT METALS	U	U	
Lead			2.2 J
Silver			5.2 J
Zinc			10.3 B

SUMMARY OF CONSTITUENTS DETECTED IN RINSE BLANKS AT SITE #2

SAMPLE ID	WV2EB01	WV2EB04	WV2EB06
SAMPLE DATE	12/18/94	12/18/94	12/18/94
MATRIX	DI	DI	DI
UNITS	ug/L	ug/L	ug/L
PCBS	U	U	U
VOLATILE ORGANICS			
Acetone	2 J	0.5 J	3 J
Bromodichloromethane	0.2 J		
2-Butanone	1 J		1 J
Chloroform	0.2 J		
Dibromochloromethane	0.2 J		
1,2-Dichlorobenzene			0.2 J
Methylene chloride	0.3 BJ		0.4 J
SEMIVOLATILE ORGANICS		U	U
bis(2-Ethylhexyl)phthalate	3 J		
PRIORITY POLLUTANT METALS	U		
Cadmium		4.6 B	
Lead		2 B	
Mercury			0.25 J
Silver			5.2B J
Zinc			7.2 B

SUMMARY OF CONSTITUENTS DETECTED IN RINSE BLANKS AT SITE #3

SAMPLE ID	WV3EB05
SAMPLE DATE	12/20/94
MATRIX	DI
UNITS	ug/L
PCBS	U
VOLATILE ORGANICS	
Methylene chloride	0.6 BJ
SEMIVOLATILE ORGANICS	U
PRIORITY POLLUTANT METALS	
Copper	5 B
Zinc	16.7 B

( ) - WHERE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
U - UNDETECTED NA - NOT ANALYZED
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED

TABLE 2-9
West Virginia Air National Guard
SUMMARY OF CONSTITUENTS DETECTED IN SOURCE WATER BLANKS

SAMPLE ID	MCL (1)	WV0TAP01	WV0TAP02
SAMPLE DATE		12/13/94	04/11/95
MATRIX	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L
PCBS		U	U
VOLATILE ORGANICS			
Acetone	NL	1 J	6 J
2-Butanone	NL		5 J
Bromodichloromethane	100 #	27	5
Bromoform	100 #	0.5 J	
Chloroform	100 #	75	96
Dibromochloromethane	100 #	8	15
Methylene chloride	5	0.3 BJ	
2-Methyl-2-Pentanone	NL		2 J
Toluene	1000		0.2 J
SEMIVOLATILE ORGANICS		U	U
PRIORITY POLLUTANT METALS			
Copper	1300	3	41
Zinc	5000 (2)	245	177

( ) - WHERE THE RESULT IS BLANK THE CONSTITUENT IS NOT DETECTED
(1) - MAXIMUM CONTAMINANT LEVEL FOR WATERS AS LISTED IN SECTION 5.0, TABLE 5-1.
(2) - NON-ENFORCEABLE SECONDARY DW STANDARD BASED ON AESTHETICS (TASTE & ODOR)
B - ANALYTE FOUND IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
J - RESULT ESTIMATED
NL - NO MAXIMUM CONTAMINANT LEVEL LISTED
U - ALL PARAMETERS ARE UNDETECTED
- MCL LISTED FOR TOTAL TRIHALOMETHANES

Field duplicates were within designated quality control RPD limits for the majority of sample/duplicate pairs. The RPD limits used in assessing field duplicate sample precision are those limits listed in Table 3-2 of the Final Sampling and Analysis Plan, September 1994. Sample duplicate precision is indicative that these data are comparable and representative of field conditions. A direct comparison of the data is presented in the Summary Tables for each matrix and analytical parameter in Section Six of the report.

APPENDIX B

GEOPHYSICAL SURVEY REPORT

GEOPHYSICAL INVESTIGATION REPORT

WEST VIRGINIA AIR NATIONAL GUARD BASE
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA

Prepared for: Metcalf & Eddy, Inc.
Site Investigation Contractor
1201 Peachtree St.
Atlanta, GA 30361

October 13, 1994

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TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 1
2.1 Site Descriptions 1
2.2 Scope of Work 2

3.0 GEOPHYSICAL METHODS 2
3.1 Electromagnetics (EM) 2
3.2 Ground Penetrating Radar (GPR) 2

4.0 DATA ACQUISITION 2
4.1 Data Grids 2
4.2 EM Surveys 3
4.3 GPR Surveys 3

5.0 SITE 1: Former Solid Waste Disposal/Burning Site 4
5.1 Site and Grid Description 4
5.2 EM Data 4
5.3 GPR Data 4

6.0 SITE 2: Construction/Demolition Debris Landfill Area 5
6.1 Site and Grid Description 5
6.2 EM Data 5
6.3 GPR Data 5

7.0 SITE 3: Former Fire Training Pit Area 6
7.1 Site and Grid Description 6
7.2 EM Data 6
7.3 GPR Data 6

8.0 GENERAL CONCLUSIONS 7

9.0 CLOSURE 8

FIGURES:

1) Map of Base / Site Locations 9
2) Site 1 Grid Layout 10
3) Site 1 EM Conductivity Data 11
4) Site 1 EM In-Phase Data 12
5) Site 1 Anomalies 13
6) Site 1 GPR line 130 14
7) Site 1 GPR Line 100 15
8) Site 2 Grid Layout 16
9) Site 2 EM Conductivity Data 17
10) Site 2 EM In-Phase Data 18
11) Site 2 GPR Line 150 19
12) Site 3 Grid Layout 20
13) Site 3 EM Conductivity Data 21
14) Site 3 Conductivity Cross-section 22
15) Site 3 EM In-Phase Data 23
16) Site 3 GPR Line 1 24

GEOPHYSICAL INVESTIGATION REPORT

West Virginia Air National Guard Base
Charleston, West Virginia

1.0 EXECUTIVE SUMMARY:

In October, 1994, Pyramid Environmental, Inc. conducted geophysical surveys of three sites on the property of the West Virginia Air National Guard Base at the Yeager Airport in Charleston, West Virginia. The survey included acquisition and analysis of Electromagnetics (EM) and Ground Penetrating Radar (GPR) data, which yielded the following results:

- The results from Site 1 indicated numerous EM and GPR anomalies, most of which are probably due to buried utility lines or to observable sources of interference at the surface. One line showed a pinching-out layer (possibly fill material) near where trash and debris had reportedly been burned.

- The results from Site 2 showed no significant EM or GPR anomalies other than those attributed to observable sources of interference. The indication is that all the debris from the landfill has been pushed to the edge of the ravine, and there is no significant amount of buried debris beneath the survey area.

- The results for Site 3 showed a prominent, well defined EM conductivity anomaly, and a few small in-phase anomalies. The conductivity anomaly is interpreted as representing a region of higher ground conductivity resulting from soil contamination or residue from the fire training pit reported to have been on that site. The GPR data across the conductivity anomaly showed no clear objects, structures, or fill areas corresponding to the anomaly.

2.0 INTRODUCTION

2.1 Site Descriptions

The three sites covered in this investigation are located on the property of the 130 TAG West Virginia Air National Guard Base at Yeager Airport in Charleston, West Virginia. The sites chosen for geophysical investigation were Sites 1, 2 and 3 (Figure 1). Site 1 is an area that was formerly used for disposal and burning of trash and other solid waste. Site 2 is currently used as a solid-waste landfill, primarily for construction and demolition debris, and has been used as such for many years. Site 3 is reported to have been the former location of a fire training pit.

2.2 Scope of Work

The surveys for all three sites were to include an electromagnetic (EM) survey, and a ground penetrating radar (GPR) survey. The scope of work included laying out the grid, acquiring the data, analyzing the data, and supplying a written report summarizing the results of the surveys and presenting our conclusions.

3.0 GEOPHYSICAL METHODS

3.1 Electromagnetics (EM)

In the electromagnetic method, the instrument measures the electrical conductivity of the subsurface soil, rock, and/or groundwater by generating an electromagnetic field through a coil at one end which induces eddy currents in the ground below the instrument. These eddy currents in turn produce a secondary electromagnetic field which is detected by a receiver coil at the opposite end of the instrument. The distance between the transmitting and receiving coils determines the depth of penetration into the subsurface. For the instrument used in this survey, the expected penetration is 10-15 feet. Conductivity of the subsurface is largely a function of the conductivity of the pore fluids, but can also be strongly affected by the presence of buried metallic objects, such as drums.

3.2 Ground Penetrating Radar (GPR)

Ground penetrating radar uses high-frequency radio waves radiated downward into the ground by a transmitting antenna. As the radiated energy is reflected back by objects or interfaces in the subsurface, it is detected by the receiving antenna and recorded on a paper printout. As the antennae are moved across the ground surface, the printout records a continuous profile of the subsurface. The depth of penetration is highly site-specific, being dependent upon the properties of the site's soil and/or rock materials, and can range from 2 to 20 feet. A radar profile will show interfaces between soil and/or rock layers having sufficiently different electrical properties, as well as objects such as buried drums or pipelines.

4.0 DATA ACQUISITION

4.1 Data Grids

The first step in data acquisition for each site was to layout a reference grid so that the data could be gathered in an efficient and systematic manner, and properly located geographically. The orientation of the grids for all three sites were chosen so that the Y-axes were due north (increasing north to south) and the X-axes were due east

(increasing west to east). The grids were all measured from easily identified physical markers (such as a corner fence post) so that the grids could be easily reproduced. Grid nodes were marked by pin-flags every 10 feet in both directions from the origin, with special colored flags placed every 50 feet.

4.2 EM Surveys

The instrument used for this survey was a Geonics EM-31 non-contacting ground-resistivity unit with a fixed transmitter-receiver spacing of 10 feet. The instrument was calibrated by finding a relatively "quiet" area (an area without any apparent electromagnetic anomalies). The instrument was equipped with dual digital readouts and was set to read 30.0 mS/M on the "conductivity" readout (with scale range set for 0-100 mS/M), and 0.0 on the "in-phase" readout. Readings in two orientations were taken at each grid node, one with the instrument oriented parallel to the north-south grid lines, and one parallel to the east-west grid lines. In both cases, both the conductivity and in-phase readings were recorded.

4.3 GPR Surveys

The instrument used in this survey was a GSSI SIR-3 ground-penetrating radar recording system with a 300 MHz antenna. The transmitting and receiving antennae were located together in a single unit fitted with wheels for smooth movement over the ground. The data was recorded with a transmission rate of 25 kHz, and with high-pass and low-pass filters set at 10 cycles/scan and 50 cycles/scan, respectively. The data was printed on a thermal paper recorder with positive polarity at 100 lines/inch and 16 scans/sec with a range of 120 ns (nanoseconds).

A short calibration line was run at the above settings across a 6" steel culvert that was partially exposed by excavation just north of Site 2 at a depth of approximately 2.3 feet. This culvert was seen at a two-way travel time of approximately 46 ns, which indicates a velocity of approximately 0.1 ft/ns. This is very slow, but within the acceptable range for common soils. The penetration was very poor, which is common with such low velocity materials. This velocity was used to estimate depths of all objects and/or horizons observed at these sites.

Continuous lines of GPR data were collected either parallel to the grid axes, or diagonal to them, depending on the needs of each site. Each GPR line was located approximately 2-3 feet from of the actual grid nodes in order to avoid the pin-flags, and a mark was electronically placed on the GPR record as the center of the antennae passed each grid node.

5.0 SITE 1: Former Solid Waste Disposal/Burning Site.

5.1 Site and Grid Description

Site 1 is located at the top of a ravine. The northern portion of the site is level and grass covered, bordered by a road on the east and a hill going up to the west. The southern part of the site is steeply sloping toward the ravine, and is badly overgrown with weeds, shrubs, and trees. The grid layout for Site 1 is shown in Figure 2. The grid was measured from the intersection of the southern side of the sidewalk with the road, and this point was arbitrarily defined as (150,150). The grid went from X=0' on the south end to X=170' on the north end, and from Y=70' on the west to Y=170' on the east, with a grid spacing of 10'.

Several sources of interference were noted in the area, including a telephone pole with steel guylines, a staircase with a steel railing on its south side, a steel guardrail along the road, and two steel manholes. In addition, it is evident that there are utility lines running underground through the site. A significant amount of trash and debris were visible on the southern part of the site, on the steep slope leading down to the ravine.

5.2 EM Data

The EM readings showed large variation in both conductivity and in-phase components over the entire area of the survey. The most prominent feature on the conductivity map for the site (Figure 3) was a southeast-northwest trending high on the northern part of the site. It is probable that this represents the utility lines that are believed to run beneath the site in approximately this location. Significant lows on the map are associated with the stair-railing, and the guardrail. Another low is located beneath the eastern end of the side walk, and in three locations on the slope leading down to the ravine. These latter three could be correlated with visible metal debris. There were also several anomalies noted on the in-phase component map (Figure 4), both on the southern slope, and the northern level area. Most of those on the slope were easily correlated with observable debris. Some of the key anomalies on the northern, more level part of the site are shown on Figure 5.

5.3 GPR Data

Eight (8) GPR lines were run from north to south, and one (1) from south to north, on the northern part of the site (Figure 2). The steepness, overgrowth, and debris of the southern part of the site prevented GPR acquisition. Several objects were observed on several of the GPR lines at estimated depths of 2 to 5 feet. Figure 6 shows an example of the GPR data showing some of these objects. Several of these objects were visually correlated from line to line and the correlations are shown on Figure 5. It is likely that these objects represent the utility lines that are believed to run beneath the site.

One GPR line (GPR-100) shows a feature that appears to be a pinching-out layer, which could represent a fill area which may contain debris from the former waste burning activities on the site. The GPR data showing this feature is shown in Figure 7, and the feature is plotted on the map in Figure 5.

6.0 SITE 2: Construction/Demolition Debris Landfill Area

6.1 Site and Grid Description

Site 2 is located on the east side of a steep ravine. Most of the site where the grid was laid out is level, except on the southwest end where the grid was extended down the upper part of the slope toward the ravine. Most of the site is either dirt covered (where recently bulldozed) or covered with tall grass and weeds. The grid layout for Site 2 is shown in Figure 8. The grid was measured from the corner fence-post on the east side of the site, and this point was arbitrarily defined as (250,200). The grid went from X=60' on the south end to X=280' on the north end, and from Y=100' on the west to Y=250' on the east, with a grid spacing of 10'.

Several sources of interference were noted in the area, including the fence, which runs along the eastern and southern edges of the site, a large roll-off and a bulldozer on the northern end of the site, as well as several piles of debris as shown on Figure 8. When the survey was conducted, much of the debris on the site had just been bulldozed into a pile along the top of the steep slope of the ravine on the west side of the site. During the survey, a new load of concrete was dumped on the pile.

6.2 EM Data

Large EM anomalies were observed along the fence and near the roll-off, bulldozer, and pile of steel fence posts. The conductivity map (Figure 9) shows most of the site area with slightly low conductivity, which increases significantly down the slope on the southern end of the site, but there are no significant isolated anomalies, other than those mentioned above. Similarly, the in-phase data (Figure 10) show no significant anomalies other than can be attributed to the identified sources of interference.

6.3 GPR Data

Nine (9) GPR lines were run from east to west across the site, and one was run from south to north, as shown in Figure 8. The GPR data show a strong horizon at an estimated depth of 2', with little penetration below it. The horizon is level, but very rough and uneven. No obvious objects, structures, or fill areas were observed on any of the GPR lines. An example of this GPR data (GPR-150) is shown in Figure 11. This line shows the largest "bump" (possibly an object) seen on any line on this site.

7.0 SITE 3: Former Fire Training Pit Area

7.1 Site and Grid Description

Site 3 is very level, mostly grass-covered, with no obstructions. The grid layout for Site 3 is shown in Figure 12. The grid was measured from the corner fence-post on the northwest side of the site, and this point was arbitrarily defined as (100,300). The grid went from X=60' on the south end to X=250' on the north end, and from Y=120' on the west to Y=250' on the east, with a grid spacing of 10'. The only obvious sources of interference observed on the site were the chain-link fence on the north side, and the electric fence on the east side; however, there were large pieces of asphalt observed at the surface in several places on the site.

7.2 EM Data

A large, well defined EM anomaly is shown by the EM conductivity map for this site (Figure 13). The anomaly trends southwest-northeast, and is approximately 130' long and 50' wide. A cross-section through the anomaly shows a classical negative anomaly with positive peaks on either side (Figure 14), indicative of a linear conductive feature. The in-phase EM data (Figure 15) do not show this anomaly clearly, indicating that it may be due to a change in conductivity along the zone rather than to a discrete object. The in-phase data do show a few small, isolated anomalies, one of which lies along the side of the large conductivity anomaly, and so may be related. The locations of these EM anomalies are shown in Figure 12.

7.3 GPR Data

Eight (8) GPR lines were run on Site 3, concentrating on the area of the major EM conductivity anomaly (Figure 12). Five of the GPR lines were oriented perpendicular to the long axis of the anomaly, running from southeast to northwest along a diagonal relative to the grid. The other three GPR lines were run parallel to the long axis of the anomaly, from southwest to northeast along a diagonal relative to the grid.

A strong horizon was seen at an estimated depth of 2' on the GPR data, with little penetration beneath it. This horizon is level, but fairly rough and uneven, similar to the horizon seen at Site 2. A deeper horizon (estimated at 4') can be seen on some of the lines, but it has characteristics that suggest that it may be a multiple reflection off the shallower horizon. On GPR line 1 (Figure 16) there is a possible object at the level of this deeper event, which may correspond to the negative in-phase anomaly next to the conductivity anomaly, but it is not clear that it is real because of the possible multiple nature of that horizon, and because it corresponds to a near-surface disturbance on the line.

No large GPR anomalies were observed which seemed to correspond to the major EM conductivity anomaly, although a small (1-2" diameter) pipeline could be below the resolution or the GPR data, or could be lost amid the roughness of the subsurface horizon. No objects, structures, or fill areas were observed on any of the GPR lines which could be correlated to other lines or to EM anomalies, except for small, very shallow events at the ends of GPR lines 3 and 4, which might correspond to the small in-phase anomalies at those locations.

8.0 GENERAL CONCLUSIONS

Analysis of electromagnetic (EM) and ground-penetration radar (GPR) data for three sites on the West Virginia Air National Guard Base yielded the following results:

- The results from Site 1 indicated numerous EM and GPR anomalies, most of which are probably due to buried utility lines or to observable sources of interference at the surface. One line showed a pinching-out layer (possibly fill material) near where trash and debris had reportedly been burned.

- The results from Site 2 showed no significant EM or GPR anomalies other than those attributed to observable sources of interference. The indication is that all the debris from the landfill has been pushed to the edge of the ravine, and there is no significant amount of buried debris beneath the survey area.

- The results for Site 3 showed a prominent, well defined EM conductivity anomaly, and a few small in-phase anomalies. The conductivity anomaly is interpreted as representing a region of higher ground conductivity resulting from soil contamination or residue from the fire training pit reported to have been on that site. The GPR data across the conductivity anomaly showed no clear objects, structures, or fill areas corresponding to the anomaly.

9.0 CLOSURE

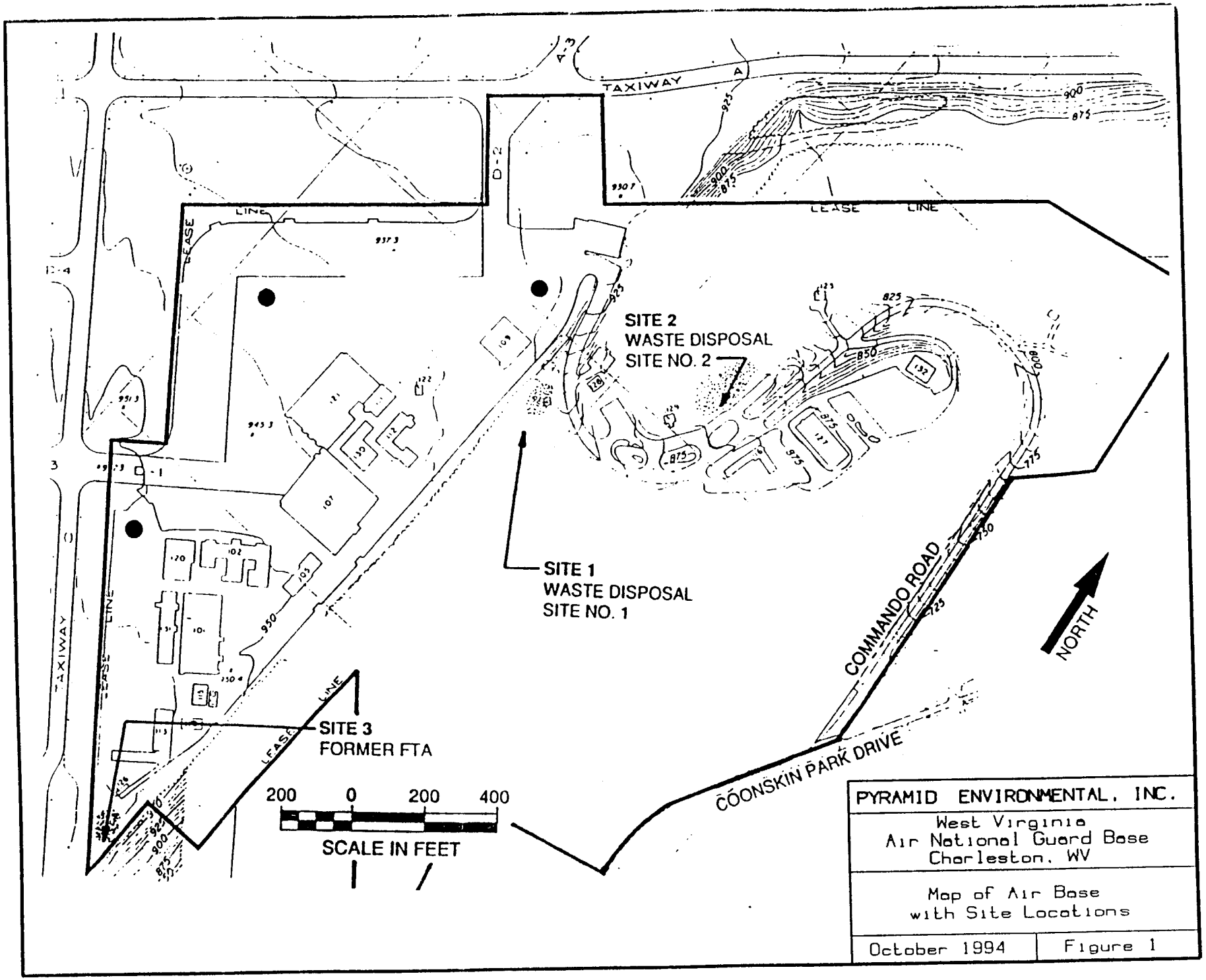
The observations, conclusions, and recommendations documented in this report are based on site conditions and information available at the time of Pyramid's investigation. Pyramid Environmental, Inc. appreciates the opportunity to provide this environmental service.

Yours Respectfully,

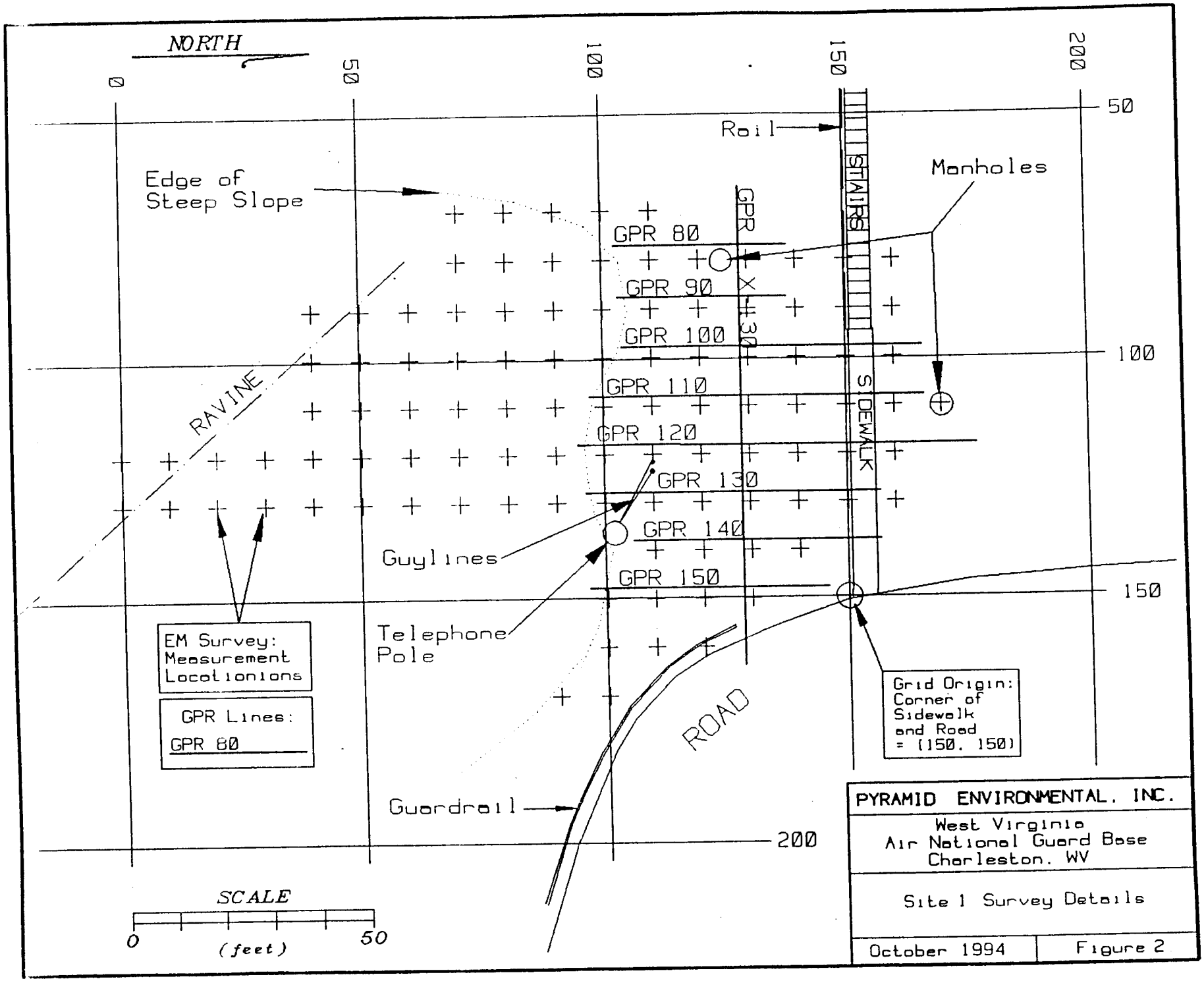
Van Burbach, Geophysicist
Pyramid Environmental, Inc.

Reviewed by:

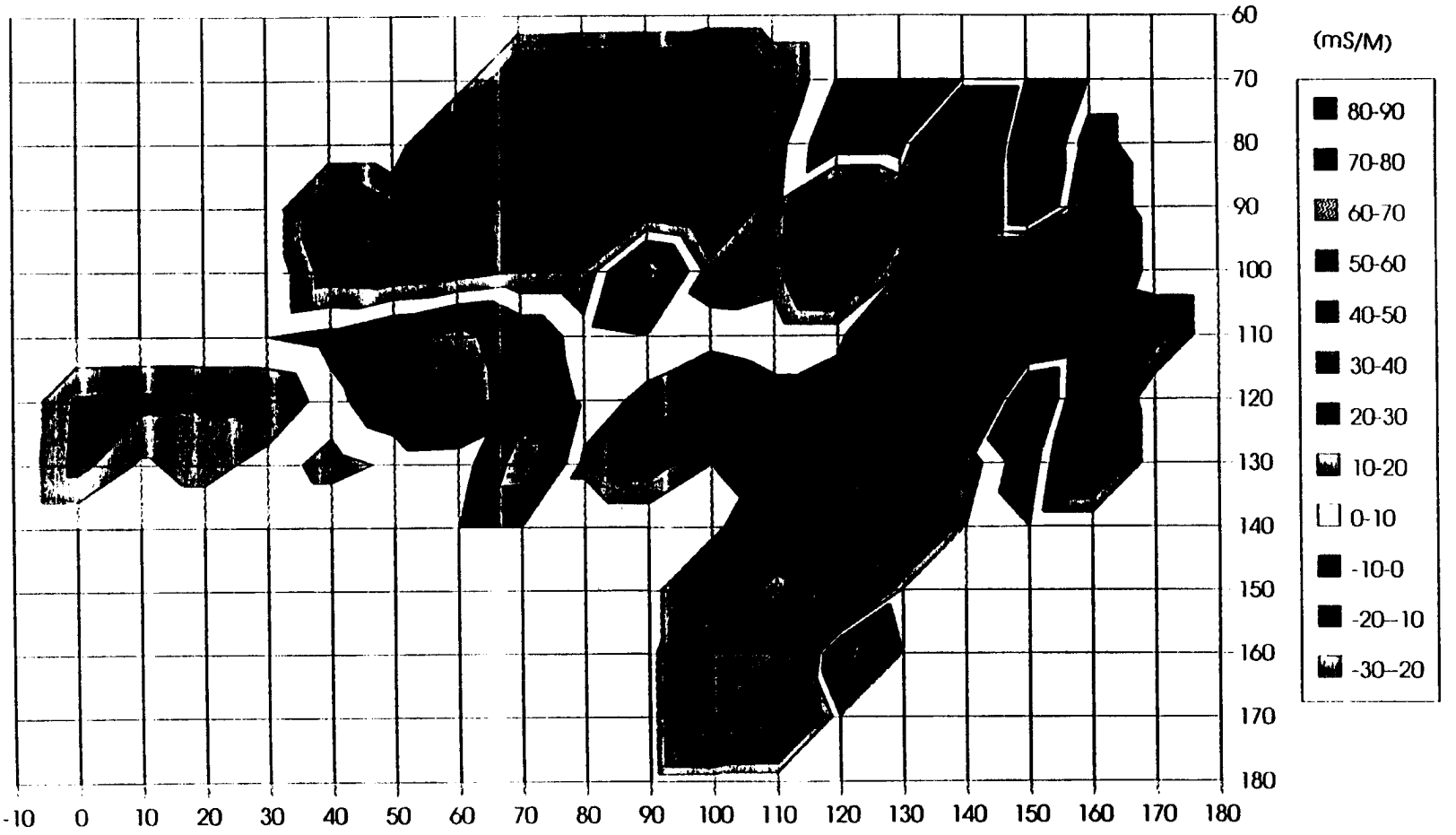
Douglas A. Canavello, PG
Pyramid Environmental, Inc.



PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Map of Air Base with Site Locations	
October 1994	Figure 1


NORTH
0
50
100
150
200
50
100
150
200
Rail
STAIRS
SIDEWALK
Manholes
Edge of
Steep Slope
GPR
X-t 30
GPR 80
GPR 90
GPR 100
GPR 110
GPR 120
GPR 130
GPR 140
GPR 150
RAVINE
Guylines
Telephone
Pole
ROAD
Guardrail
EM Survey:
Measurement
Locations
GPR Lines:
GPR 80
Grid Origin:
Corner of
Sidewalk
and Road
= (150, 150)
SCALE
0
(feet)
50
PYRAMID ENVIRONMENTAL, INC.
West Virginia
Air National Guard Base
Charleston, WV
Site 1 Survey Details
October 1994
Figure 2

SITE 1. N-S EM Conductivity

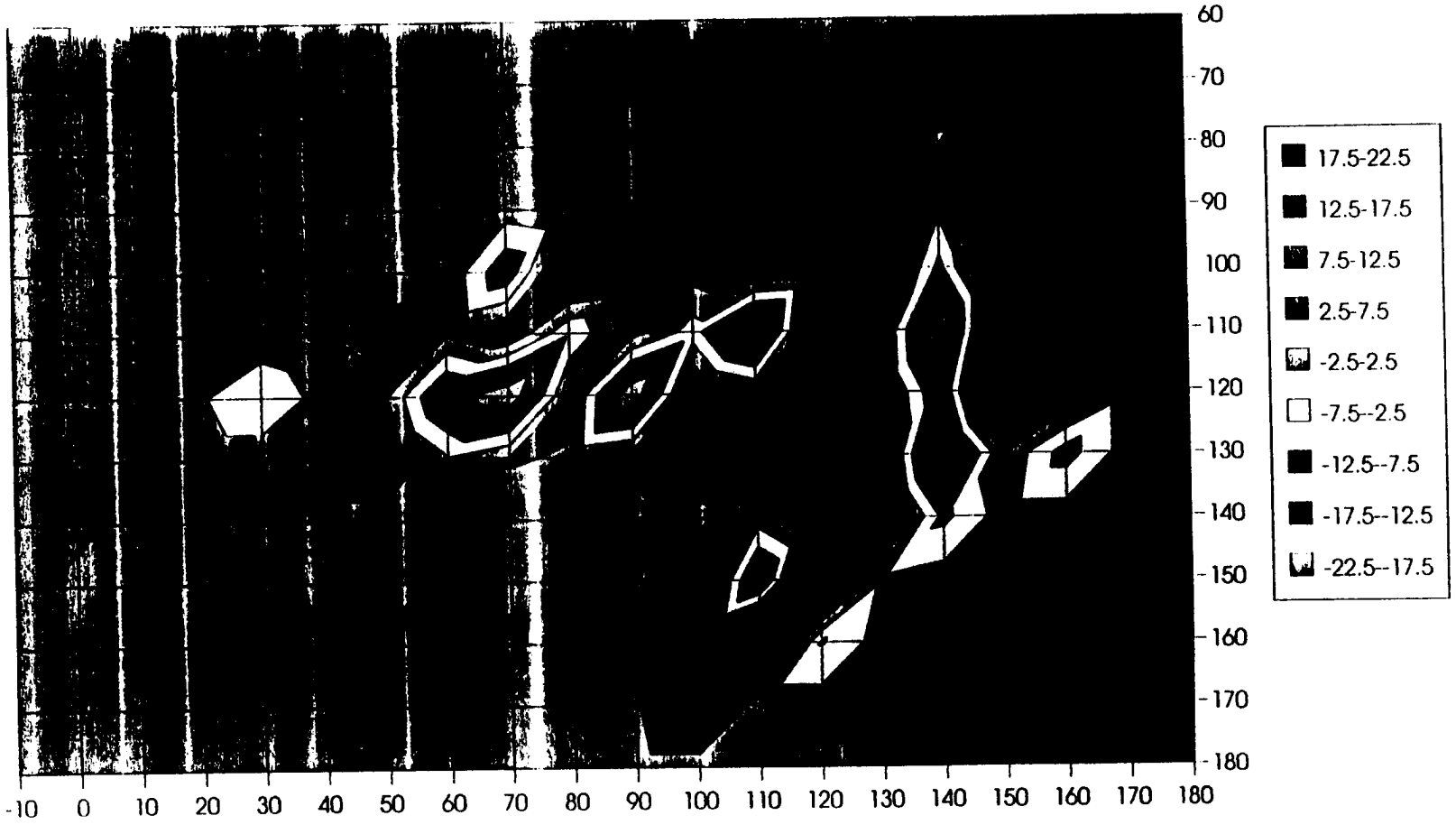


NORTH

SCALE: 1" = 25'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 1: Conductivity	
October 1994	Figure 3

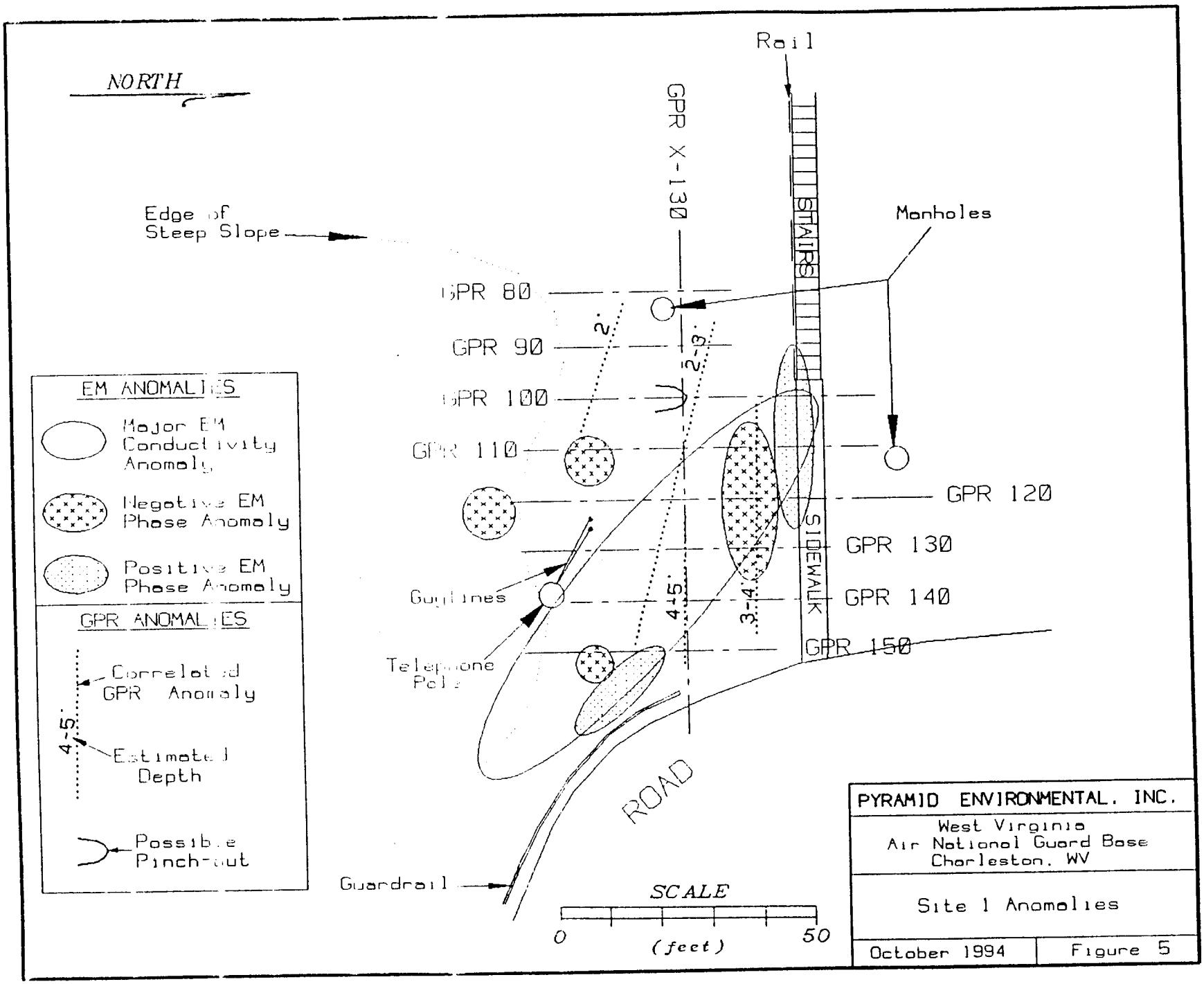
Site 1: E-W In-Phase



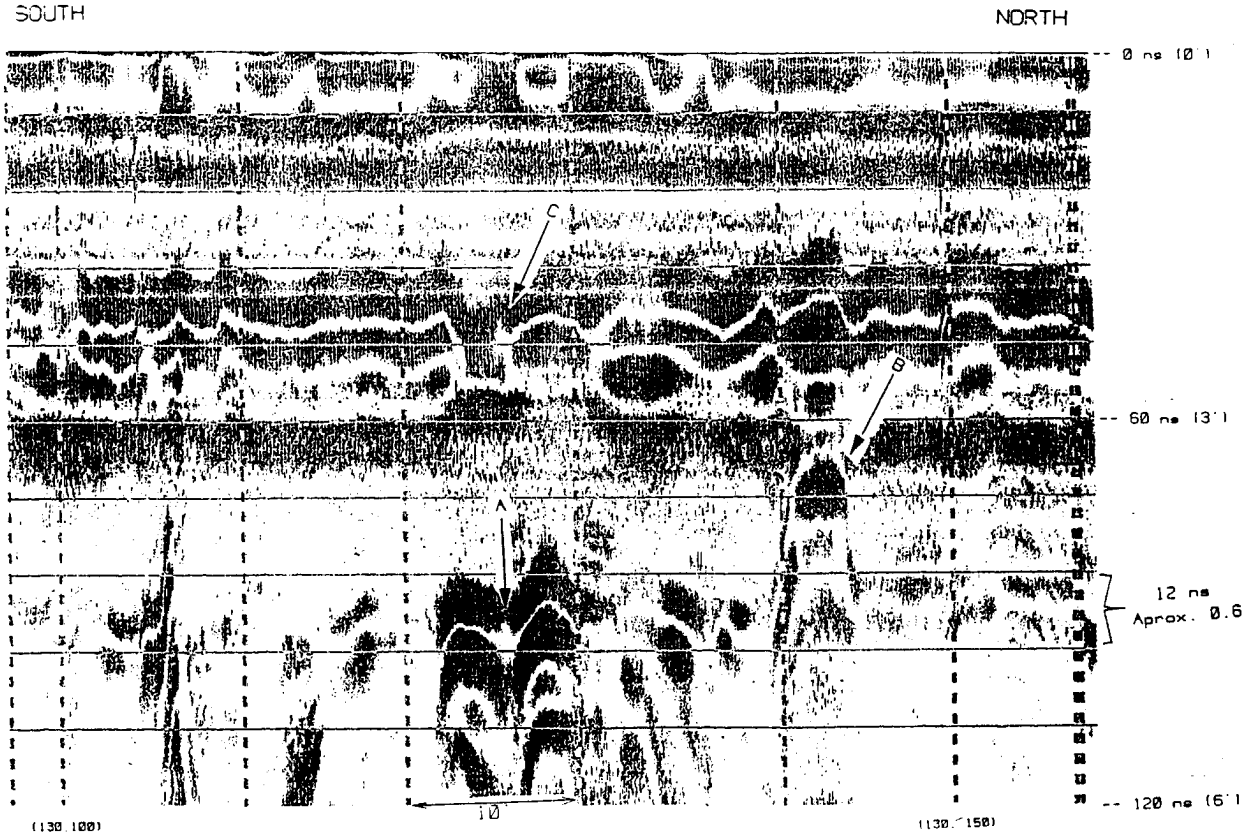
NORTH

SCALE: 1" = 25'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 1: In-Phase	
October 1994	Figure 4


NORTH
Rail
GPR X-130
STAIRS
Edge of Steep Slope
Manholes
GPR 80
GPR 90
GPR 100
GPR 110
GPR 120
GPR 130
GPR 140
GPR 150
2'
2-3'
4-5'
3-4'
SIDEWALK
Guylines
Telephone Pole
ROAD
Guardrail
EM ANOMALIES
Major EM Conductivity Anomaly
Negative EM Phase Anomaly
Positive EM Phase Anomaly
GPR ANOMALIES
Correlated GPR Anomaly
4-5'
Estimated Depth
Possible Pinch-out
SCALE
0
(feet)
50
PYRAMID ENVIRONMENTAL, INC.
West Virginia Air National Guard Base Charleston, WV
Site 1 Anomalies
October 1994
Figure 5

Site 1: GPR Line 130



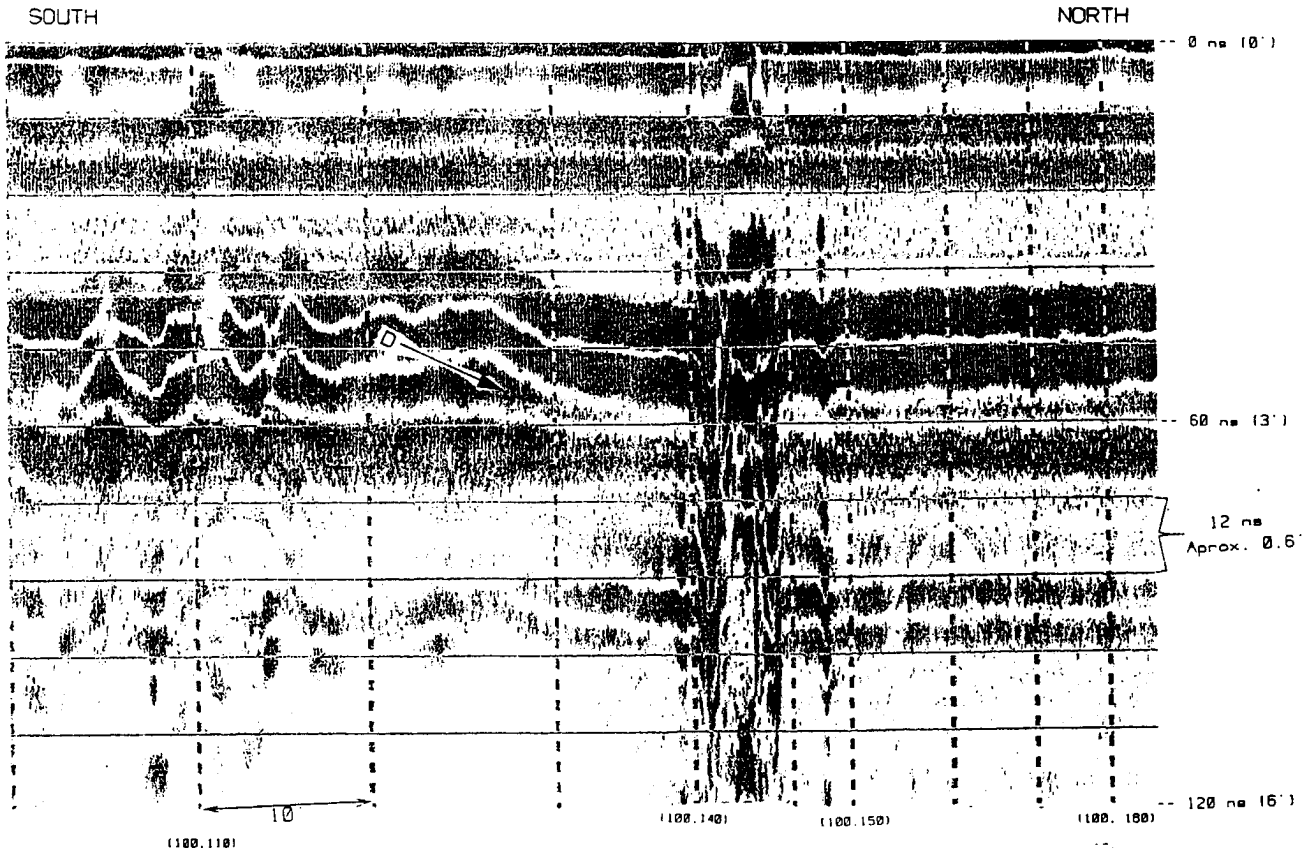
A - Anomaly at 4-5'
B - Anomaly at 3-4'
C - Anomaly at Aprx 2'

GPR times (T) are two-way travel times.
Depth (D) is one-way given by D = (TxV1/2.
V = Estimated Velocity = 0.1'/ns.

Horizontal distances between marks on record = 10'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 1: GPR Line 130	
October 1994	Figure 6

Site 1: GPR Line 100

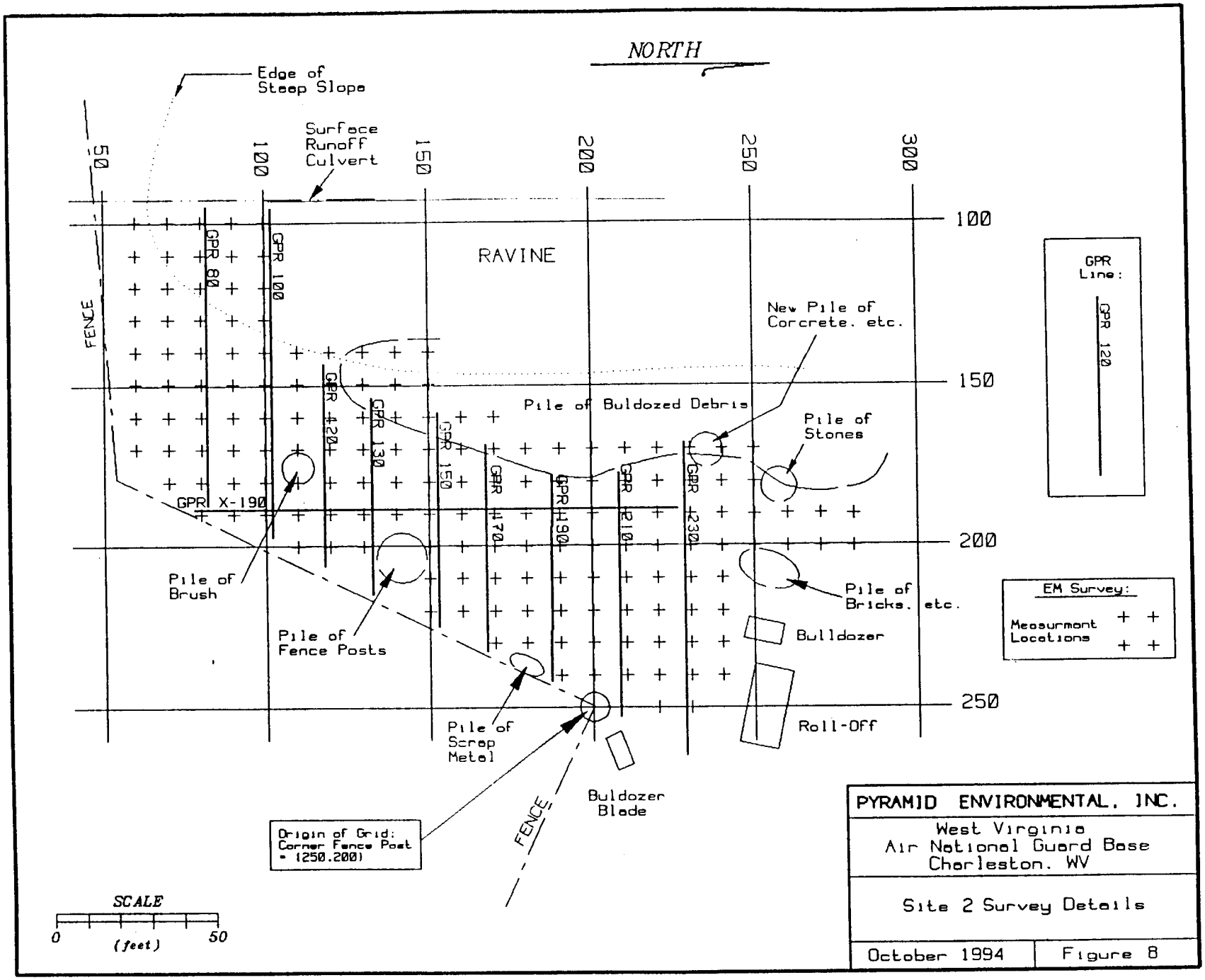


GPR times (T) are two-way travel times.
Depth (D) is one-way given by D = (TxV)/2.
V = Estimated Velocity = 0.1'/ns.

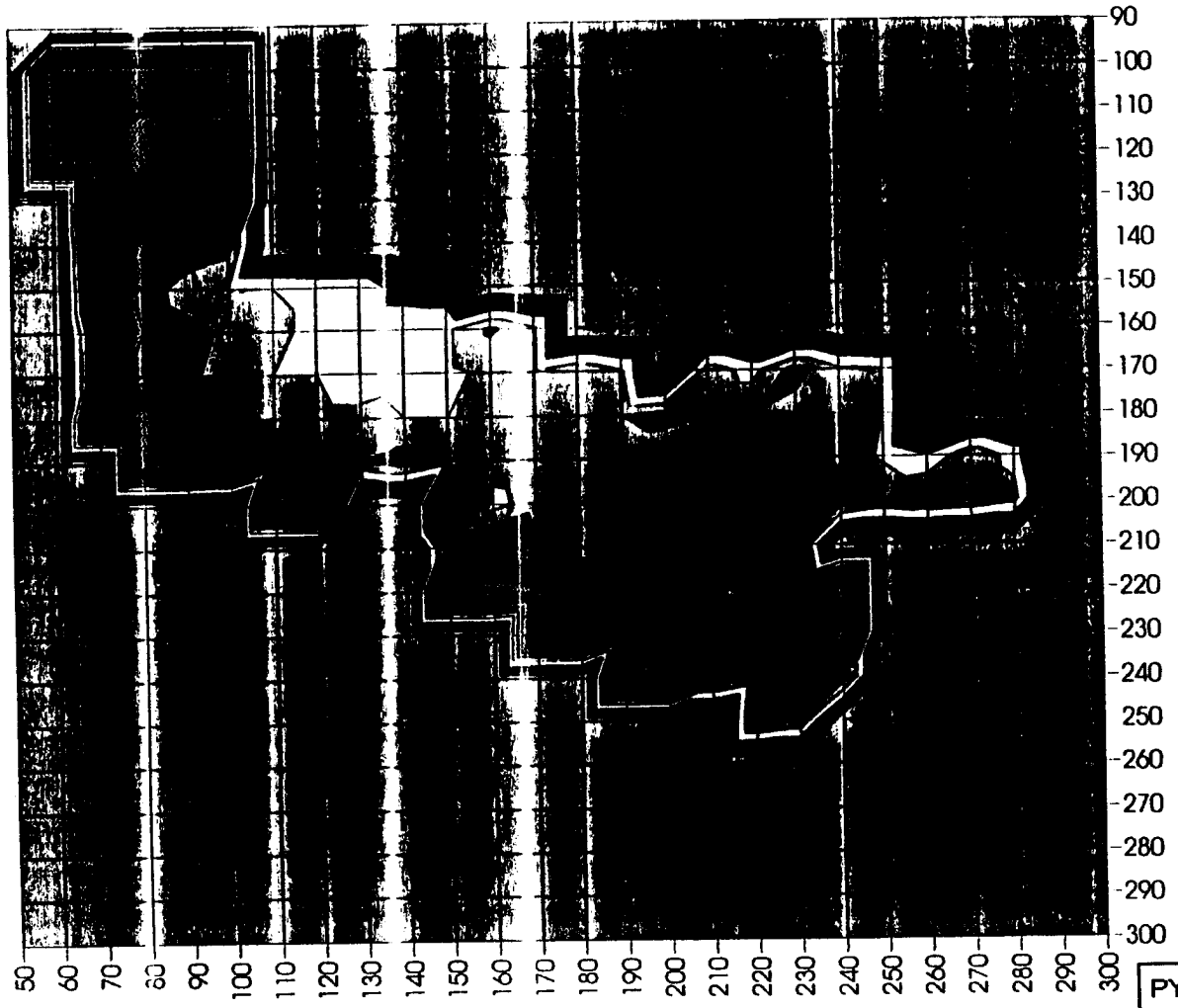
Horizontal distances between marks on record = 10'

D - Pinching-out horizon

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 1: GPR Line 100	
October 1994	Figure 7


NORTH
Edge of Steep Slope
Surface Runoff Culvert
50
100
150
200
250
300
100
150
200
250
RAVINE
FENCE
GPR 80
GPR 100
GPR 120
GPR 130
GPR 150
GPR 170
GPR 190
GPR 210
GPR 230
GPR X-190
New Pile of Concrete. etc.
Pile of Buldozed Debris
Pile of Stones
Pile of Brush
Pile of Fence Posts
Pile of Bricks. etc.
Bulldozer
Roll-Off
Pile of Scrap Metal
Buldozer Blade
FENCE
GPR Line:
GPR 120
EM Survey:
Measurment Locations
Origin of Grid: Corner Fence Post = (250.200)
SCALE
0
(feet)
50
PYRAMID ENVIRONMENTAL, INC.
West Virginia Air National Guard Base Charleston, WV
Site 2 Survey Details
October 1994
Figure 8

Site 2: N-S Conductivity



(mS/M)

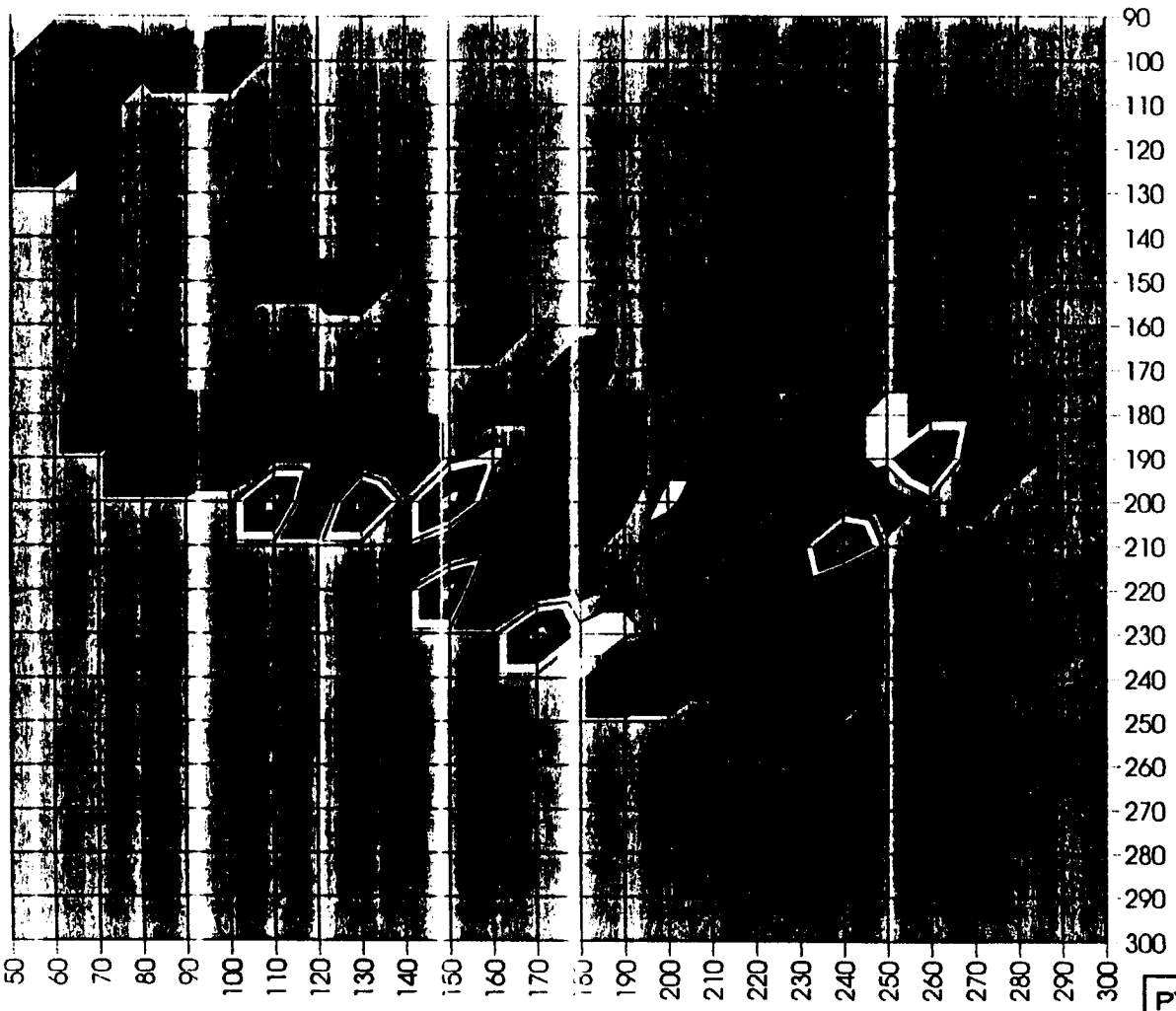
- 45-50
- 40-45
- 35-40
- 30-35
- 25-30
- 20-25
- 15-20
- 10-15
- 5-10
- 0-5

NORTH

SCALE: 1" = 40'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 2: Conductivity	
October 1994	Figure 9

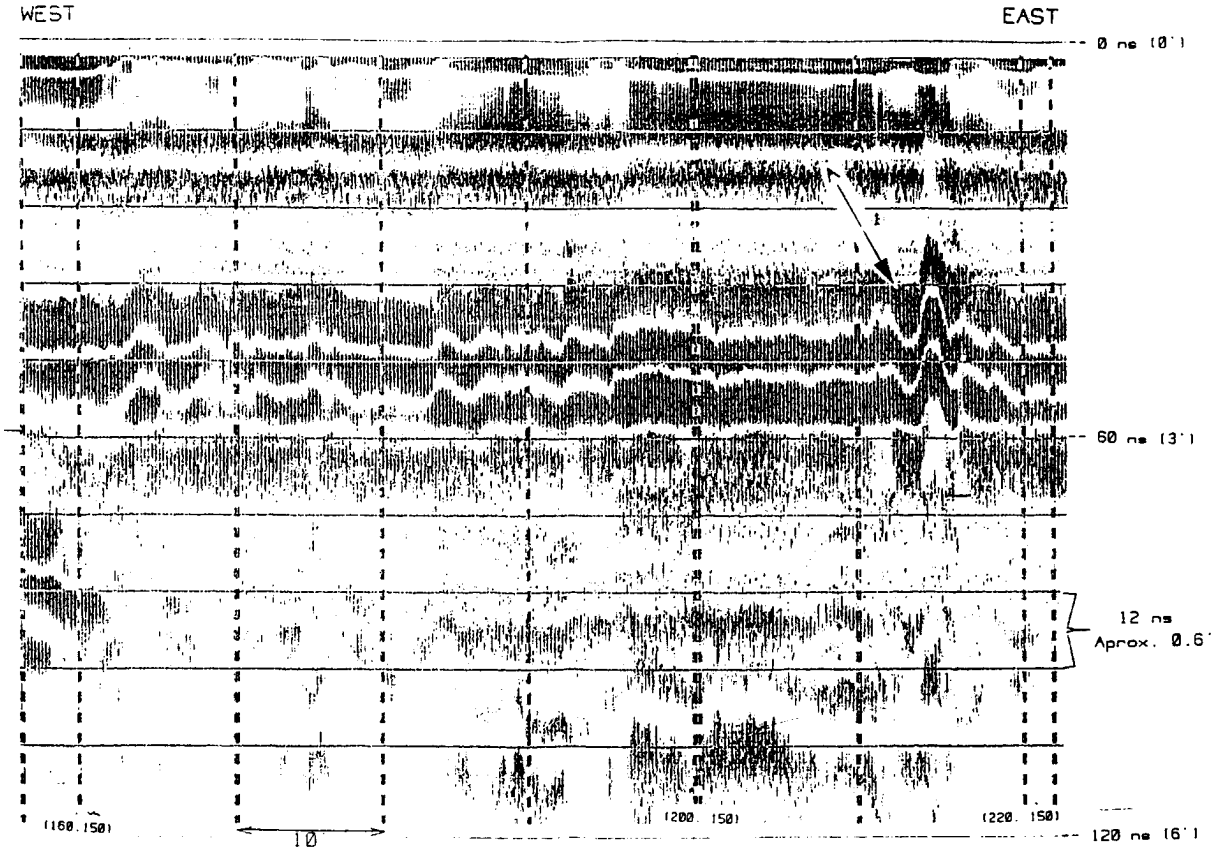
Si.e 2: N-S In-Phase



SCALE: 1" = 40'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 2: In-Phase	
October 1994	Figure 10

Site 2: GPR Line 150

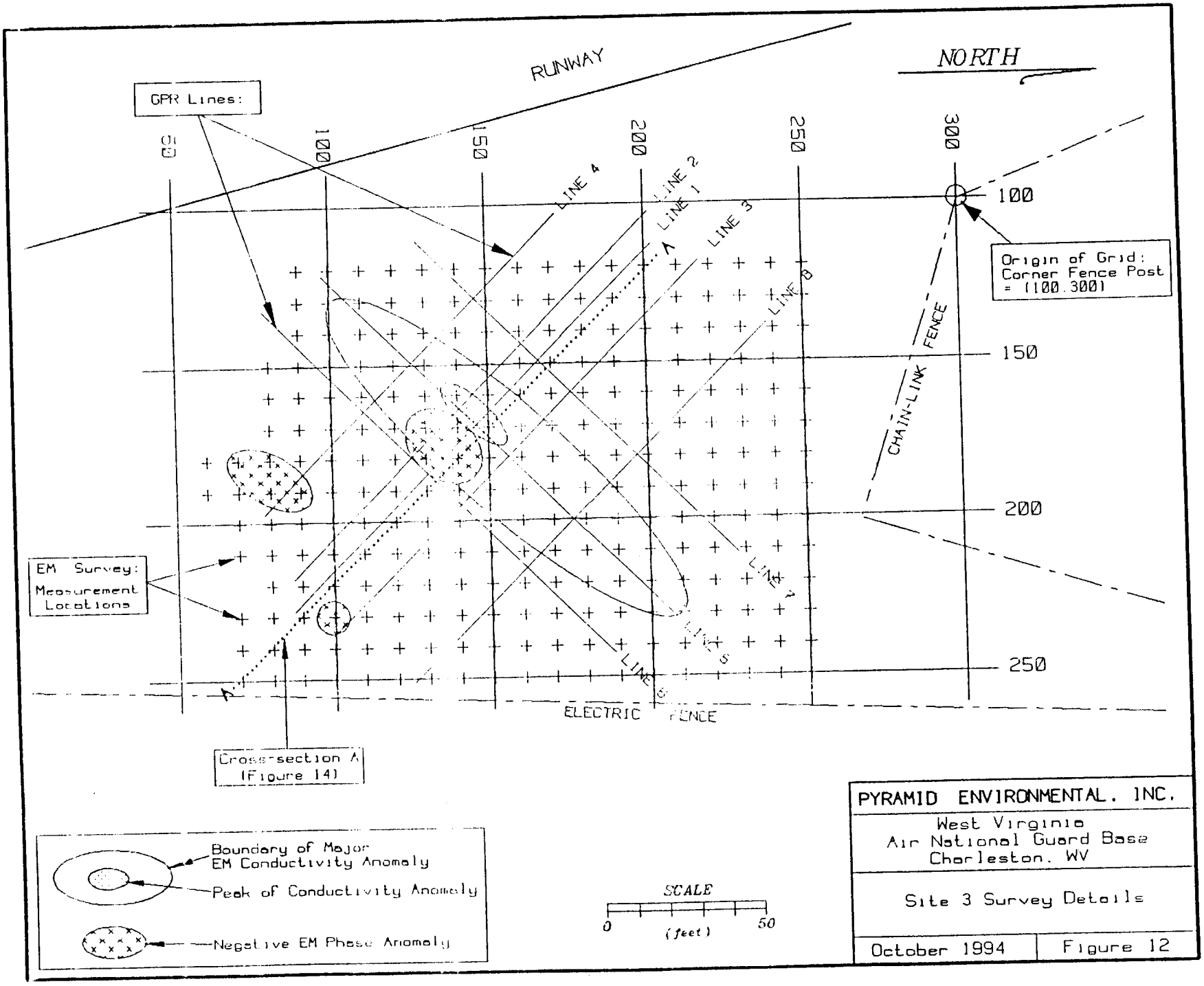


A - Small anomaly (possible object)

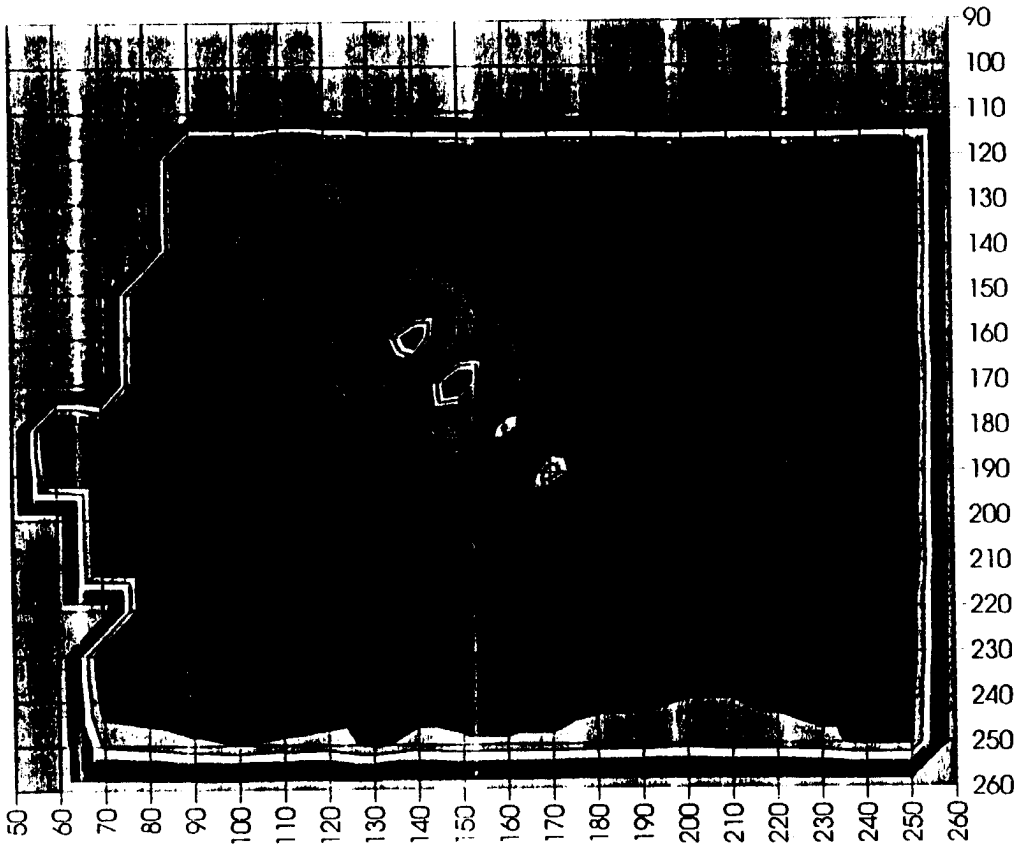
GPR times (T) are two-way travel times.
Depth (D) is one-way given by D = (TxV)/2.
V = Estimated Velocity = 0.1'/ns.

Horizontal distances between marks on record = 10'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 2: GPR Line 150	
October 1994	Figure 11


RUNWAY
NORTH
GPR Lines:
050
100
150
200
250
300
LINE 4
LINE 2
LINE 1
LINE 3
LINE 8
LINE 7
LINE 5
LINE 6
100
150
200
250
FENCE
CHAIN-LINK
Origin of Grid:
Corner Fence Post
= (100,300)
EM Survey:
Measurement
Locations
A
A'
ELECTRIC FENCE
Cross-section A
(Figure 14)
Boundary of Major
EM Conductivity Anomaly
Peak of Conductivity Anomaly
Negative EM Phase Anomaly
SCALE
0
(feet)
50
PYRAMID ENVIRONMENTAL, INC.
West Virginia
Air National Guard Base
Charleston, WV
Site 3 Survey Details
October 1994
Figure 12

Site 3: N-S Conductivity



(mS/M)

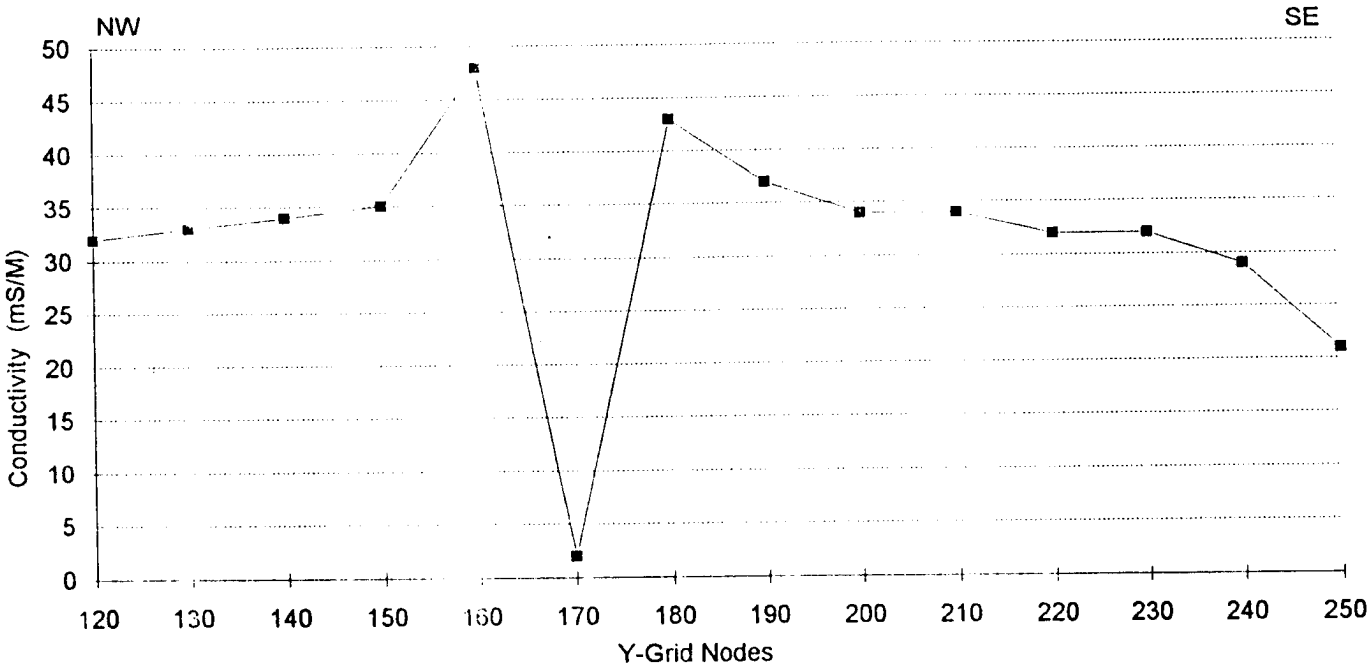
- 45-50
- 40-45
- 35-40
- 30-35
- 25-30
- 20-25
- 15-20
- 10-15
- 5-10
- 0-5

NORTH

SCALE: 1" = 40'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 3: Conductivity	
October 1994	Figure 13

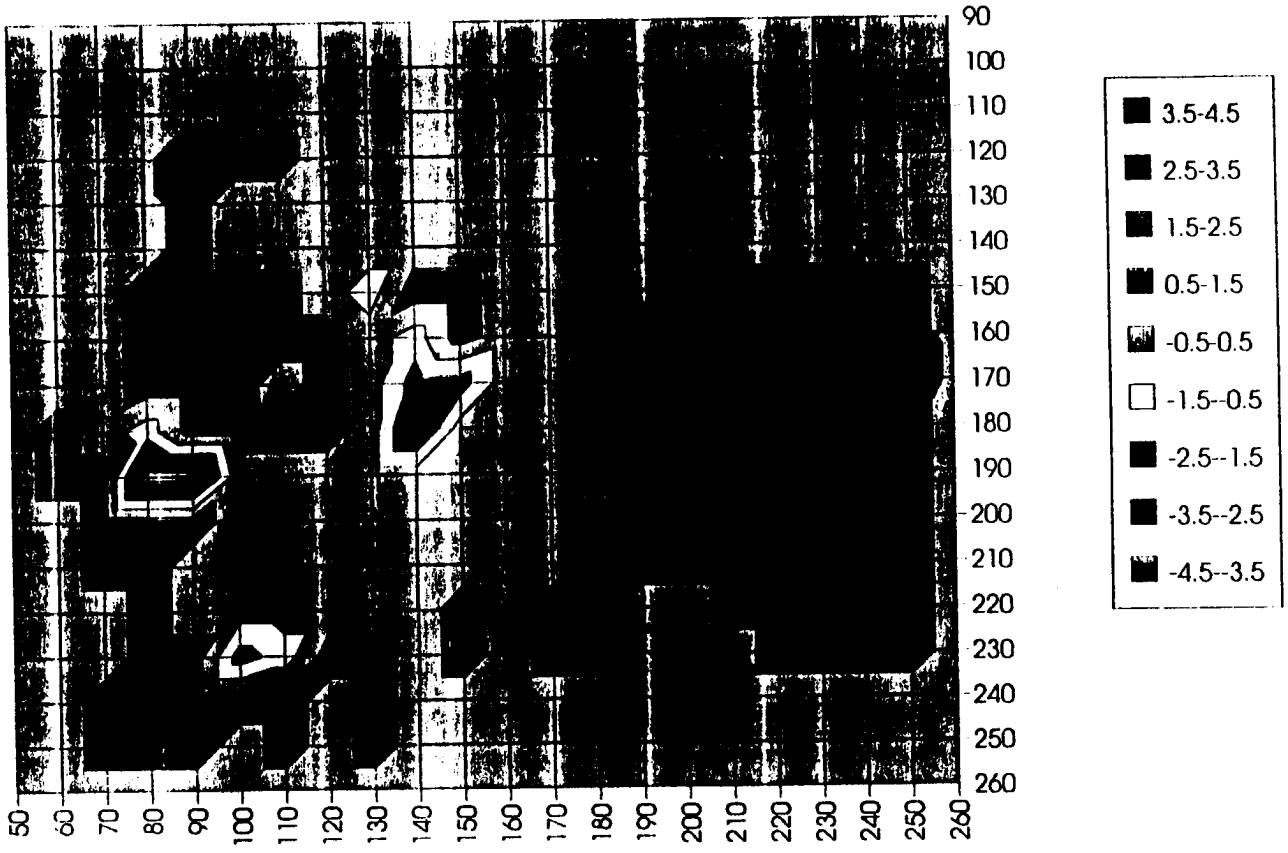
Site 3: N-S Cond. along X-Sec. A



See Figure 12 for location of cross-section.

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Cross Section A (Site 3) N-S Conductivity	
October 1994	Figure 14

Site 3: N-S In-Phase

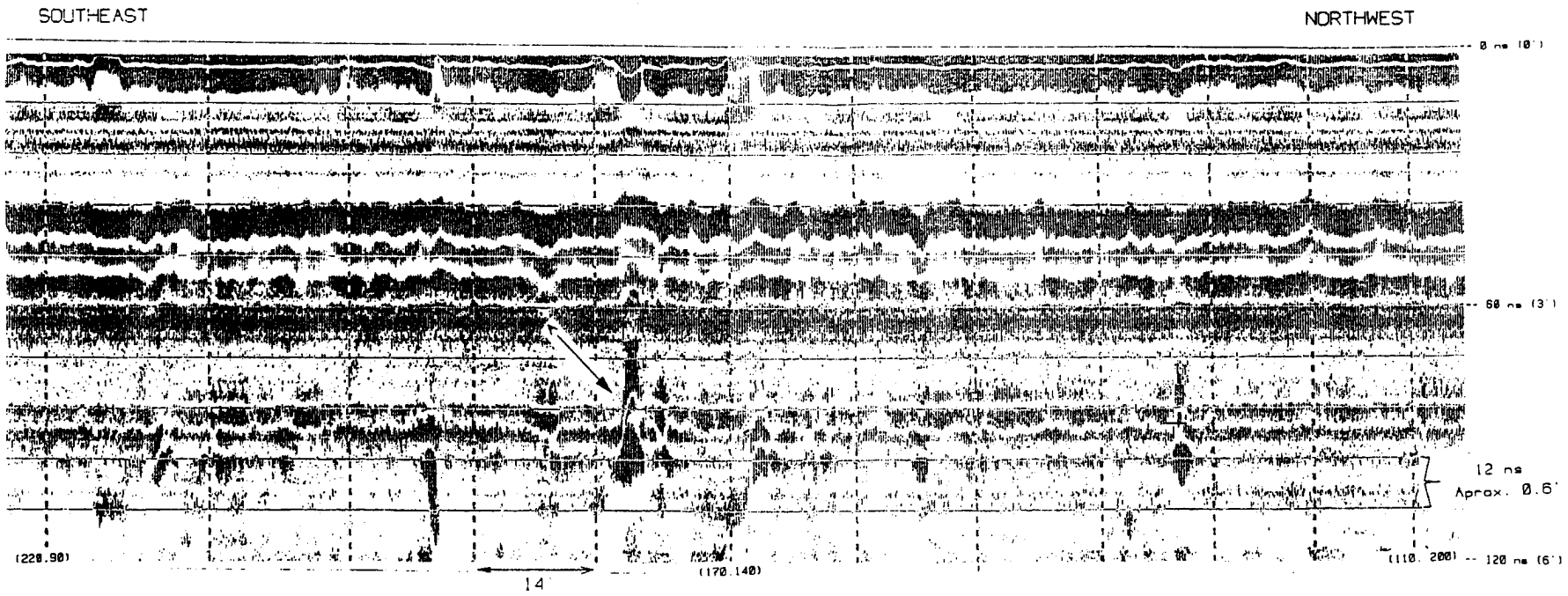


NORTH

SCALE: 1" = 40'

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 3: In-Phase	
October 1994	Figure 15

Site 3: GPR Line 1



GPR times (T) are two-way travel times.
Depth (D) is one-way given by D = (TxV)/2.
V = Estimated Velocity = 0.1'/ns.

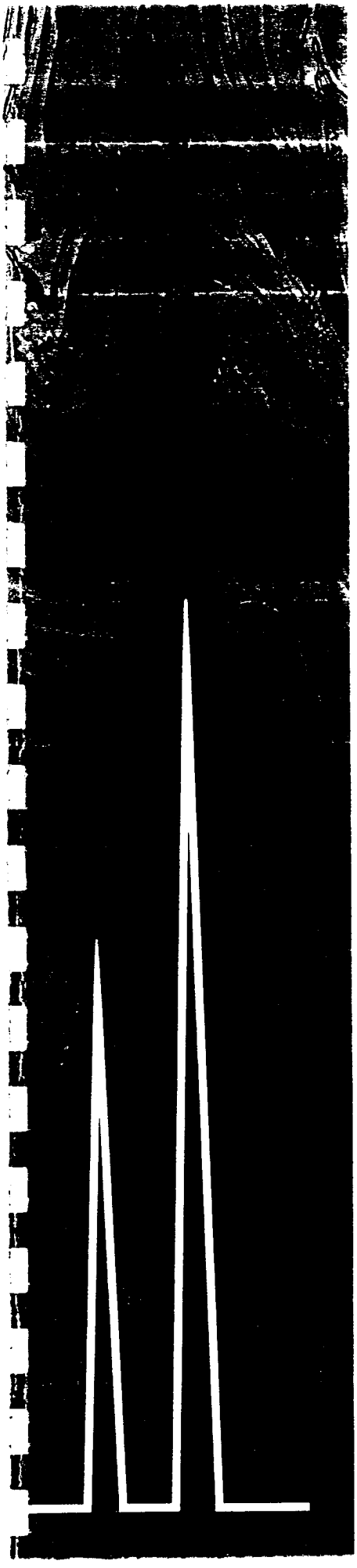
Horizontal distances between marks on record = 14'

A - Possible anomaly (may be artifact)

PYRAMID ENVIRONMENTAL, INC.	
West Virginia Air National Guard Base Charleston, WV	
Site 3: GPR Line 1	
October 1994	Figure 16

APPENDIX C

SOIL ORGANIC VAPOR SURVEY REPORT



Vapor Trace® Shallow Soil Gas
Investigation

WEST VIRGINIA AIR NATIONAL GUARD
YEAGER FIELD
Charleston, West Virginia

October 4 through 7, 1994

Tracer Research Corporation

Tracer Research Corporation



Vapor Trace® Shallow Soil Gas
Investigation

WEST VIRGINIA AIR NATIONAL GUARD
YEAGER FIELD
Charleston, West Virginia

October 4 through 7, 1994



Tracer Research Corporation



Vapor Trace® Shallow Soil Gas Investigation

WEST VIRGINIA AIR NATIONAL GUARD
YEAGER FIELD
Charleston, West Virginia

October 4 through 7, 1994

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Submitted by:
Marjorie D. Stivers

124-0251-S



TABLE OF CONTENTS

1.0 WEST VIRGINIA ANG - YEAGER FIELD SITE INVESTIGATION.....1
1.1 Objective.....1
1.2 Overview of Results.....1

2.0 SITE DESCRIPTION.....2

3.0 SOIL GAS SAMPLING PARAMETERS.....2

4.0 ANALYTICAL PARAMETERS.....3
4.1 Chromatographic System.....3
4.2 Analyses.....5

5.0 QUALITY ASSURANCE AND QUALITY CONTROL.....5

6.0 RESULTS.....8

APPENDIX A Condensed Data.....A-1

APPENDIX B Figures.....B-1

TABLES

Table 1. Soil Gas Sample Summary.....2

Table 2. Detection Limits for Target Compounds.....5

Table 3. Quality Assurance Samples.....7



1.0 WEST VIRGINIA ANG - YEAGER FIELD SITE INVESTIGATION

Tracer Research Corporation (Tracer Research) performed a *Vapor Trace*® shallow soil gas investigation at the West Virginia Air National Guard (West Virginia ANG), Yeager Field, site located in Charleston, West Virginia. The investigation was conducted October 4 through 7, 1994 for Metcalf & Eddy of Atlanta, Georgia.

1.1 Objective

The purpose of the investigation was to determine the extent of possible soil and/or groundwater contamination by screening the shallow soil gas for the presence of volatile organic compounds (VOCs). The soil gas samples were collected and analyzed for the following analyte classes and compounds:

Analyte Class: Hydrocarbon
benzene, toluene, ethylbenzene, xylenes (BTEX)
total volatile hydrocarbons (TVHC)

Analyte Class: Halocarbon
1,1,1 trichloroethane (TCA)
trichloroethene (TCE)
tetrachloroethene (PCE)

1.2 Overview of Results

For this investigation, sixty-eight samples were collected from forty-nine sampling locations. Samples were collected at depths of 1.5 to 10 feet below ground surface (bgs). Depth profile samples were collected at locations Y4-1, Y5-1, Y5-5, Y5-6, Y5-8, Y1-1 and Y3-1. A summary of the results of the investigation is presented in Table 1.



Table 1. Soil Gas Sample Summary

Compound	# of samples in which compound was detected	Low conc. µg/L	High conc. µg/L	Sample(s) with high conc.
benzene	37	0.04	0.4	Y3-1-3'
toluene	18	0.08	1	Y3-1-3'
ethylbenzene	0	NA	NA	NA
xylenes	1	NA	17	Y3-14-3'
TVHC	61	0.06	210	Y3-14-3'
TCA	61	0.0003	110	Y3-14-3'
TCE	39	0.0003	21	Y4-1-2'
PCE	50	0.0003	6	Y4-1-4'

NA = Not Applicable

2.0 SITE DESCRIPTION

The soil gas samples were collected at a dump site, fire training area, and a solvent spill area. Samples were collected through soil and asphalt cover. The Metcalf & Eddy field representative reported that the subsurface of the site consists of sandy clay over sandstone. The depth to groundwater was not reported. Groundwater flows to the north/northeast.

3.0 SOIL GAS SAMPLING PARAMETERS

Soil gas sampling probes consisted of 7- to 14-foot lengths of 3/4-inch diameter hollow steel pipe. The probes were fitted with detachable drive tips and hydraulically pushed and/or pounded to depths of 1.5 to 10 feet bgs. A rock drill and compressor were used to drill through the asphalt.

The aboveground end of each probe was fitted with an aluminum reducer (manifold) and a length of polyethylene tubing leading to a vacuum pump. Soil gas was pulled by the vacuum pump into the probe. Samples were collected in a glass syringe by inserting a needle through a silicone rubber segment in the evacuation line



and down into the steel probe. The vacuum was monitored by a vacuum gauge to ensure an adequate gas flow from the vadose zone was maintained.

The volume of air within the probe was purged by evacuating 2 to 5 liters of gas. The evacuation time in minutes versus the vacuum in inches of mercury (Hg) was used to calculate the necessary evacuation time. The vacuum in inches Hg was recorded at each sampling location.

Sample probe vacuums ranged from 3 to 19 inches Hg. The vacuum capacity of the pump was approximately 21 inches Hg.

4.0 ANALYTICAL PARAMETERS

During this investigation, up to 10 milliliters (mL) of soil gas were collected for each sample and immediately analyzed in the Tracer Research analytical van. Subsamples (replicates) from these samples were injected into the gas chromatograph (GC) in volumes of 1 to 1,000 microliters (μL) depending on the VOC concentrations in the sample.

Analytical instruments were calibrated daily using fresh working standards made from National Institute of Sciences and Technology (NIST) traceable standards and reagent blanked solvents. A three point calibration was performed to determine the range of each detector. If subsequent calibration checks were not within twenty-five percent of the mean response factor of the three point calibration then the gas chromatograph would have been recalibrated.

4.1 Chromatographic System

A Hewlett Packard 5890 Series II gas chromatograph, equipped with a flame ionization detector (FID), an electron capture detector (ECD), and two computing integrators, was used for the soil gas analyses. The compounds were separated in the GC on two 6-foot by 1/8 inch OD packed analytical columns (10% OV101 stationary phase bonded to 80/100 mesh Chromosorb W support) in a temperature controlled oven. The hydrocarbons were detected with the FID and the halocarbons were detected with the ECD. Nitrogen was used as the carrier gas.



The instrument calibrations were checked periodically throughout the day to monitor the response factors and retention times. The following paragraphs explain the GC, FID, and ECD processes.

GC Process

The soil gas is injected into the GC where it is swept through the analytical column by the carrier gas. The detector senses the presence of a component different from the carrier gas and converts that information to an electrical signal. The components of the sample pass through the column at different rates, according to their individual properties, and are detected by the detector. Compounds are identified by the time it takes them to pass through the column (retention time).

FID Process

The FID utilizes a flame produced by the combustion of hydrogen and air. When a component, which has been separated on the GC analytical column, is introduced into the flame, a large increase in ions occurs. A collector with a polarizing voltage is applied near the flame and the ions are attracted and produce a current, which is proportional to the amount of the sample compound in the flame. The electrical current causes the computing integrator to record a peak on a chromatogram. By measuring the area of the peak and comparing that area to the integrator response of a known aqueous standard, the concentration of the analyte in the sample is determined.

ECD Process

The ECD captures low energy thermal electrons that have been ionized by beta particles. The flow of these captured electrons into an electrode produces a small current, which is collected and measured. When the halogen atoms (halocarbons) are introduced into the detector, electrons that would otherwise be collected at the electrode are captured by the sample, resulting in decreased current. The current causes the computing integrator to record a peak on a chromatogram. The area of the peak is compared to the peak generated by a known standard to determine the concentration of the analyte.



4.2 Analyses

The detection limits for target compounds depend on the sensitivity of the detector to the individual compound as well as the volume of the sample injection. The detection limits of the target compounds were calculated from the response factor, the sample injection size, and the calculated minimum peak size (area) observed under the conditions of the analyses. If any compound was not detected in an analysis, the detection limit is given as a "less than" value, e.g., <0.01 µg/L. The approximate detection limits for the target compounds are presented in Table 2.

Table 2. Detection Limits for Target Compounds

Compound	Detection Limits (µg/L)
benzene	0.03
toluene	0.04
ethylbenzene	0.06
xylenes	0.08
TVHC	0.08
TCA	0.00007
TCE	0.0002
PCE	0.0002

5.0 QUALITY ASSURANCE AND QUALITY CONTROL

Tracer Research's Quality Assurance (QA) and Quality Control (QC) program was followed to maintain data that was reproducible through the investigation. An overview presenting the significant aspects of this program is presented on the following pages.



Soil Gas Sampling Quality Assurance

To ensure consistent collection of samples, the following procedures are performed:

- Sampling Manifolds

Tracer Research's custom designed sampling manifold connects the sample probe to the vacuum line and pump. The manifold is designed to eliminate sample exposure to the polymeric (plastic) materials that connect the probe to the vacuum pump.

The sampling manifold is attached to the end of the probe, forming an air tight union between the probe and the silicone tubing septum. The septum connects the manifold to the pump vacuum line and permits syringe sampling.

This sampling system allows the sample to be taken upstream of the sampling pump, manifold, and septum. Since cross contamination of sampling equipment can be a major problem, Tracer Research replaces the materials (probe and syringe), between sampling points, that contact the soil gas before or during sampling.

-Sampling Probes

Steel probes are used only once each day. To eliminate the possibility of cross contamination, they are washed with high pressure soap and hot water spray, or steam-cleaned. Enough sampling probes are carried on each van to avoid the need to re-use any during the day.

-Glass Syringes

Glass syringes are used for only one sample a day and are washed and baked out at night. If they must be used twice, they are purged with carrier gas (nitrogen) and baked out between probe samplings.



-Sampling Efficiency

Soil gas pumping is monitored by a vacuum gauge to ensure that an adequate flow of gas from the soil is maintained. A reliable gas sample can be obtained if the sample vacuum gauge reading is at least 2 inches Hg less than the maximum measured vacuum of the vacuum pump.

Analytical Quality Assurance Samples

Quality assurance samples are performed at the minimum frequencies listed in Table 3. The actual frequency depends on the number of samples analyzed each day and the length of time of the survey.

Table 3. Quality Assurance Samples

Sample type	Frequency
Ambient Air Samples	3 per day or 1 per site
Analytical Method Blanks	1 per day
Continuing Calibration Check	20% (1 every 5 samples)
Field System Blank	1 per day
Reagent Blank	1 per set of working standards
Replicate Samples	10% of all samples

The ambient air samples are obtained on site by sampling the air immediately outside the mobile analytical van and directly injecting it into the GC. Analytical method blanks are taken to demonstrate that the analytical instrumentation is not contaminated. These are performed by injecting carrier gas (nitrogen) into the GC with the sampling syringe. Subsampling syringes are also checked in this fashion.

Continuing calibration checks are analyzed to verify the detector response for the target VOCs. If the response changes by more than twenty-five percent, the gas chromatograph is recalibrated and new response factors are calculated.



Field system blanks are analyzed to check for contamination of the sampling apparatus, e.g., probe and sampling syringe. A sample is collected using standard soil gas sampling procedures, but without putting the probe into the ground. The results are compared to those obtained from a concurrently analyzed ambient air sample.

If the field system blanks detect compounds of interest at concentrations that indicate equipment contamination or concentrations that exceed normal background levels (ambient air analysis), corrective actions are performed. If the problem cannot be corrected, an out-of-control event is documented and reported. Field system blanks are performed after any probe decontamination process.

A reagent blank is performed to ensure the solvent used to dilute the stock standards is not contaminated. Analytical instruments are calibrated daily using fresh working standards made from National Institute of Sciences and Technology traceable standards and reagent blanked solvents.

Quantitative precision is assured by replicating analysis of 10 percent of the samples. Replicate analyses are performed by subsampling vapors from the same sampling syringe.

The injector port septa through which samples are injected into the GC are replaced daily to prevent possible gas leaks from the chromatographic column. All sampling and subsampling syringes are decontaminated after use and are not used again until they have been decontaminated by washing in anionic detergent and baking at 90°C.

6.0 RESULTS

The analytical results from this soil gas investigation are condensed in Appendix A. The data are presented by location and by analyte concentration. When the compound was not detected, the detection limit is presented as a "less than" value, e.g., <0.01 µg/L. A sample location map and contour maps for TCA, TCE and PCE are presented in Appendix B.

Soil gas samples are identified by sample location and sampling depth. For example, Y4-1-2' represents a soil gas sample collected at location Y4-1 at a depth of 2 feet bgs. A duplicate sample is noted with a "D".



At site Y1, TCA concentrations ranged from 0.0004 to 0.0008 µg/L. The highest concentration of TCE was detected at location Y1-6 (0.06 µg/L). PCE concentrations at this site ranged from 0.001 to 0.09 µg/L.

Elevated concentrations of TCA were detected at site Y3. TCA concentrations ranged from 0.0005 to 110 µg/L. The highest concentration of TCA was detected at location Y3-14. Additional samples should be collected to the north of the this site to determine the extent of the TCA contamination. TCE was not detected in any samples collected at site Y3. PCE concentrations ranged from 0.0003 to 0.02 µg/L.

TCA detected at site Y4 ranged from 0.0008 to 0.03 µg/L. Elevated concentrations of TCE and PCE were detected at this site. TCE concentrations ranged from 0.06 to 21 µg/L. The highest concentrations of TCE were detected at locations Y4-1 and Y4-3. Additional samples should be collected to the south and west of this site to determine the extent of TCE contamination. The highest concentrations of PCE were detected at locations Y4-1 (6 µg/L at 4 feet bgs), Y4-3 (3 µg/L) and Y4-7 (1 µg/L).

Samples at site Y5 were collected on the north and south sides of Building 109. TCA concentrations at this site ranged from 0.0007 to 0.04 µg/L. The highest concentrations of TCE were detected on the north side of Building 109at location Y5-7 (2 µg/L) and Y5-3 (0.6 µg/L). TCE concentrations on the south side of Building 109 ranged from 0.0005 to 0.9 µg/L. The highest concentration of PCE detected at site Y5 was at sample location Y5-15 (2 µg/L). PCE concentrations at this site ranged from 0.0003 to 2 µg/L.



APPENDIX A Condensed Data



TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD/ CHARLESTON, WEST VIRGINIA
10/04/94

	TCA	TCE	PCE
High-level Standard			
STD INJECTION VOL-uL	5	5	5
INJ SYRINGE NUMBER	NA	NA	NA
STD CONC-ug/L	20	50	20
STD RESPONSE 1-area	6356125	13516720	10802896
STD RESPONSE 2-area	6356125	13516720	10802896
REL % DIFF (RPD)	0%	0%	0%
MEAN STD RESP-area	6356125	13516720	10802896
RESPONSE FACTOR	1.57E-17	1.85E-17	9.26E-18
Mid-level Standard			
STD INJECTION VOL-uL	5	5	5
INJ SYRINGE NUMBER	NA	NA	NA
STD CONC-ug/L	2	5	2
STD RESPONSE 1-area	731263	1435262	1019957
STD RESPONSE 2-area	731263	1435262	1019957
REL % DIFF (RPD)	0%	0%	0%
MEAN STD RESP-area	731263	1435262	1019957
RESPONSE FACTOR	1.37E-17	1.74E-17	9.8E-18
Low-level Standard			
STD INJECTION VOL-uL	1	1	1
INJ SYRINGE NUMBER	NA	NA	NA
STD CONC-ug/L	1	2.5	1
STD RESPONSE 1-area	83134	147552	123186
STD RESPONSE 2-area	83134	147552	123186
REL % DIFF (RPD)	0%	0%	0%
MEAN STD RESP-area	83134	147552	123186
RESPONSE FACTOR	1.20E-17	1.69E-17	8.12E-18
Statistics			
HIGH-LEVEL STD RF	1.57E-17	1.85E-17	9.26E-18
MID-LEVEL STD RF	1.37E-17	1.74E-17	9.8E-18
LOW-LEVEL STD RF	1.20E-17	1.69E-17	8.12E-18
MEAN RESPONSE FACTOR	1.38E-17	1.76E-17	9.06E-18
STANDARD DEVIATION	1.86E-18	7.95E-19	8.6e-19
RELATIVE STD DEV(RSD	13.4%	4.5%	9.5%
Field Program Entries			
INJECTION VOLUME	5	5	5
STANDARD CONC	2	5	2
RESPONSE AREA	723998	1418917	1103797
RF SHOULD BE	1.38E-17	1.76E-17	9.06E-18



TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD/ CHARLESTON, WEST VIRGINIA
10/04/94

	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	TVHC
High-level Standard					
STD INJECTION VOL-uL	5	5	5	5	
INJ SYRINGE NUMBER	NA	NA	NA	NA	
STD CONC-ug/L	10000	10000	10000	10000	
STD RESPONSE 1-area	1651342	1830835	1491849	1566213	
STD RESPONSE 2-area	1651342	1830835	1491849	1566213	
REL % DIFF (RPD)	0%	0%	0%	0%	
MEAN STD RESP-area	1651342	1830835	1491849	1566213	
RESPONSE FACTOR	3.03E-14	2.73E-14	3.35e-14	3.19E-14	
Mid-level Standard					
STD INJECTION VOL-uL	5	5	5	5	
INJ SYRINGE NUMBER	NA	NA	NA	NA	
STD CONC-ug/L	1000	1000	1000	1000	
STD RESPONSE 1-area	153616	170211	159828	162585	
STD RESPONSE 2-area	153616	170211	159828	162585	
REL % DIFF (RPD)	0%	0%	0%	0%	
MEAN STD RESP-area	153616	170211	159828	162585	
RESPONSE FACTOR	3.25E-14	2.94E-14	3.13E-14	3.08E-14	
Low-level Standard					
STD INJECTION VOL-uL	1	1	1	1	
INJ SYRINGE NUMBER	NA	NA	NA	NA	
STD CONC-ug/L	500	500	500	500	
STD RESPONSE 1-area	21614	28699	34078	28363	
STD RESPONSE 2-area	21614	28699	34078	28363	
REL % DIFF (RPD)	0%	0%	0%	0%	
MEAN STD RESP-area	21614	28699	34078	28363	
RESPONSE FACTOR	2.31E-14	1.74E-14	1.47E-14	1.76E-14	
Statistics					
HIGH-LEVEL STD RF	3.03E-14	2.73E-14	3.35e-14	3.19E-14	
MID-LEVEL STD RF	3.25E-14	2.94E-14	3.13E-14	3.08E-14	
LOW-LEVEL STD RF	2.31E-14	1.74E-14	1.47E-14	1.76E-14	
MEAN RESPONSE FACTOR	2.87E-14	2.47E-14	2.65E-14	2.68E-14	2.67E-14
STANDARD DEVIATION	4.91E-15	6.39E-15	1.03E-14	7.94E-15	
RELATIVE STD DEV(RSD	17.1%	25.9%	38.9%	29.7%	
Field Program Entries					
INJECTION VOLUME	5	5	5	5	5
STANDARD CONC	1000	1000	1000	1000	1000
RESPONSE AREA	174499	202409	188747	186786	187591
RF SHOULD BE	2.87E-14	2.47E-14	2.65E-14	2.68E-14	2.67E-14

TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD-YEAGER FIELD/ CHARLESTON, WEST VIRGINIA/ 1240251S
10/04/94

SAMPLE	TCA µg/L	TCE µg/L	PCE µg/L	BENZENE µg/L	TOLUENE µg/L	ETHYL BENZENE µg/L	XYLENES µg/L	TVHC µg/L
AIR	0.0009	<0.00008	0.0003	<0.02	<0.02	<0.03	<0.04	<0.05
Y4-1-2'	<0.00008	21	2	<0.03	<0.04	<0.06	<0.08	2
Y4-1-3'	0.001	7	1	0.2	<0.04	<0.06	<0.08	2
Y4-1-4'	0.0008	14	6	<0.03	<0.04	<0.06	<0.08	3
Y4-1-5'	<0.0004	9	2	<0.03	<0.04	<0.06	<0.08	2
Y4-1-6'	0.0008	10	4	<0.03	<0.04	<0.06	<0.08	4
Y4-1-10'	0.008	6	2	<0.03	<0.04	<0.06	<0.08	2
Y4-2-3'	<0.0004	6	0.8	<0.03	<0.04	<0.06	<0.08	2
Y4-3-6'	0.03	12	3	<0.03	<0.04	<0.06	<0.08	13
Y4-4-4'	<0.0004	9	0.8	<0.03	<0.04	<0.06	<0.08	3
Y4-5-3'	0.004	0.06	0.002	<0.03	<0.04	<0.06	<0.08	0.2
Y4-6-5'	0.002	0.7	0.01	<0.03	<0.04	<0.06	<0.08	0.1
Y4-6D-5'	0.002	0.7	0.02	<0.03	<0.04	<0.06	<0.08	0.09
Y4-7-4'	0.0008	9	1	0.2	<0.04	<0.06	<0.08	2
Y4-8-4'	0.002	1	0.4	<0.03	<0.04	<0.03	<0.08	0.2
AIR	0.001	0.0002	0.00008	<0.02	<0.04	<0.03	<0.08	<0.05

Analyzed by: J. Oliver
Proofed by: M. Silvers



TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD-YEAGER FIELD/ CHARLESTON, WEST VIRGINIA/ 1240251S
10/05/94

SAMPLE	TCA µg/L	TCE µg/L	PCE µg/L	BENZENE µg/L	TOLUENE µg/L	ETHYL BENZENE µg/L	XYLENES µg/L	TVHC µg/L
AIR	0.0007	<0.00007	0.0009	0.07	<0.03	<0.05	<0.06	0.06
Y5-1-1.5'	0.002	0.004	0.002	0.1	0.1	<0.1	<0.1	0.2
Y5-1-5'	0.0008	0.006	0.002	0.1	0.1	<0.1	<0.1	0.2
Y5-2-2'	0.0007	0.0004	0.001	0.1	<0.05	<0.1	<0.1	0.1
Y5-3-5'	0.0003	0.6	0.6	0.08	0.1	<0.05	<0.06	0.7
Y5-4-2'	0.0007	0.002	<0.0008	0.1	0.4	<0.1	<0.1	0.3
Y5-5-3'	0.0007	0.0009	<0.0008	0.2	0.08	<0.1	<0.1	0.2
Y5-5-5'	0.001	0.009	0.002	0.08	0.4	<0.1	<0.1	0.4
Y5-6-2'	0.0007	0.0002	0.0003	<0.03	0.2	<0.1	<0.1	0.6
Y5-6-5.5'	<0.00007	<0.0002	0.002	<0.03	0.1	<0.5	<0.6	2
Y5-7-5'	0.0005	2	0.2	0.2	<0.05	<0.1	<0.1	2
AIR	0.0007	0.0004	0.0002	<0.01	<0.03	<0.05	<0.06	<0.06

Analyzed by: J. Oliver
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD-YEAGER FIELD/ CHARLESTON, WEST VIRGINIA/ 1240251S
10/06/94

SAMPLE	TCA µg/L	TCE µg/L	PCE µg/L	BENZENE µg/L	TOLUENE µg/L	ETHYL BENZENE µg/L	XYLENES µg/L	TVHC µg/L
AIR	0.0007	<0.00007	0.0004	<0.01	<0.03	<0.05	<0.06	<0.06
Y5-8-2.5'	0.0008	0.0005	0.0003	0.2	0.1	<0.1	<0.1	0.3
Y5-8-5'	0.006	0.8	0.02	0.04	0.3	<0.05	<0.06	0.5
Y5-8-6.5'	0.01	0.9	0.04	0.2	<0.05	<0.1	<0.1	0.4
Y5-8-10'	0.007	0.07	0.1	0.06	<0.05	<0.1	<0.1	<0.1
Y5-9-8.5'	0.007	0.07	0.9	<0.03	<0.05	<0.1	<0.1	4
AIR	0.0007	<0.00007	0.0002	<0.01	<0.03	<0.05	<0.06	<0.06
Y5-10-8'	0.01	0.03	0.2	0.05	<0.03	<0.05	<0.06	0.08
Y5-11-8'	0.004	0.6	0.03	0.04	<0.05	<0.1	<0.1	0.4
Y5-12-8'	0.0007	<0.0008	<0.0008	0.2	<0.05	<0.1	<0.1	0.4
Y5-13-8'	0.002	0.3	0.004	0.2	<0.03	<0.05	<0.06	2
Y5-13D-8'	0.002	0.3	0.004	0.09	<0.05	<0.1	<0.1	0.09
Y5-14-8'	0.003	0.2	0.06	0.07	<0.05	<0.1	<0.1	0.1
Y5-15-8'	0.04	0.2	2	<0.03	<0.05	<0.1	<0.1	<0.1
Y1-1-2'	<0.0004	<0.0008	0.01	<0.03	<0.05	<0.1	<0.1	<0.1
Y1-1-3'	0.0004	<0.0004	0.008	<0.03	<0.05	<0.1	<0.1	<0.1
Y1-1-4'	0.0004	<0.0004	0.007	0.2	<0.05	<0.1	<0.1	0.1
Y1-2-2.5'	0.0004	0.01	0.02	0.2	<0.05	<0.1	<0.1	0.2
AIR	0.0007	<0.0004	0.0002	0.02	<0.03	<0.05	<0.06	<0.06
Y1-3-3'	0.0006	0.0008	0.001	<0.03	<0.05	<0.1	<0.1	<0.1
Y1-4-3'	0.0005	0.007	0.003	0.2	<0.05	<0.1	<0.1	0.2

Analyzed by: J. Oliver
Proofed by: M. Silveo

TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD-YEAGER FIELD/ CHARLESTON, WEST VIRGINIA/ 1240251S
10/07/94

SAMPLE	TCA µg/L	TCE µg/L	PCE µg/L	BENZENE µg/L	TOLUENE µg/L	ETHYL BENZENE µg/L	XYLENES µg/L	TVHC µg/L
AIR	0.0008	<0.00007	0.00008	<0.01	<0.03	<0.05	<0.06	<0.06
Y1-5-3'	0.0005	<0.0004	0.002	0.06	<0.05	<0.1	<0.1	0.06
Y1-6-3'	0.0008	0.06	0.02	<0.01	<0.03	<0.05	<0.06	<0.06
Y1-7-3'	0.0004	<0.0002	0.01	<0.03	<0.05	<0.1	<0.1	<0.1
Y1-8-3'	0.0006	0.04	0.09	0.08	<0.03	<0.05	<0.06	0.1
Y3-1-2'	0.02	<0.0004	<0.0004	0.1	<0.1	<0.2	<0.2	0.1
Y3-1-3'	0.02	<0.0004	<0.0004	0.4	1	<0.2	<0.2	2
Y3-1-4'	0.009	<0.0004	<0.0004	<0.2	0.4	<0.2	<0.3	0.7
Y3-1-5'	0.005	<0.0004	<0.0004	0.2	0.4	<0.2	<0.3	0.8
Y3-2-3'	0.5	<0.0004	<0.0004	0.4	0.3	<0.2	<0.3	0.8
Y3-3-3'	0.0005	<0.0002	<0.0002	0.08	<0.05	<0.1	<0.1	0.07
Y3-4-3'	0.002	<0.0002	0.0003	0.2	0.08	<0.1	<0.1	0.2
Y3-5-1.5'	0.0009	<0.0002	<0.0002	0.1	0.6	<0.1	<0.1	0.1
Y3-6-2.5'	<0.00007	<0.0002	<0.0002	0.05	<0.05	<0.1	<0.1	0.6
Y3-7-2.5'	1	<0.0002	0.001	0.2	0.6	<0.1	<0.1	2
Y3-8-3'	6	<0.08	0.02	<0.03	<0.05	<0.1	<0.1	8
Y3-9-2'	0.001	<0.0008	<0.0008	0.2	<0.05	<0.1	<0.1	0.3
Y3-10-2.5'	0.0009	<0.0004	<0.0004	<0.03	0.8	<0.1	<0.1	3
Y3-11-3'	4	<0.04	<0.0004	<0.03	<0.05	<0.1	<0.1	0.9
Y3-12-3'	45	<0.08	0.004	<0.03	<0.05	<0.1	<0.1	12
Y3-13-3'	49	<0.02	<0.02	<0.03	<0.05	<0.1	<0.1	11

Analyzed by: J. Oliver
Proofed by: M. Stivus



TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
METCALF & EDDY/ WEST VIRGINIA AIR NATIONAL GUARD-YEAGER FIELD/ CHARLESTON, WEST VIRGINIA/ 1240251S
10/07/94

SAMPLE	TCA µg/L	TCE µg/L	PCE µg/L	BENZENE µg/L	TOLUENE µg/L	ETHYL BENZENE µg/L	XYLENES µg/L	TVHC µg/L
Y3-14-3'	110	<0.08	<0.09	<0.1	<0.05	<0.1	17	210
Y3-15-3'	0.4	<0.0008	<0.0009	0.1	<0.05	<0.1	<0.1	0.4
Y3-15D-3'	0.3	<0.0008	<0.0009	0.2	<0.05	<0.1	<0.1	0.2
Y3-16-3'	38	<0.08	0.006	<0.03	<0.05	<0.1	<0.1	2
AIR	0.001	<0.00007	0.0004	0.07	0.09	<0.05	<0.06	2
Y3-17-3'	11	<0.08	0.003	<0.03	<0.05	<0.1	<0.1	4
Y3-18-3'	8	<0.08	0.009	<0.03	<0.05	<0.1	<0.1	6

Analyzed by: J. Oliver
Proofed by: M. Stalnaker



APPENDIX B Figures

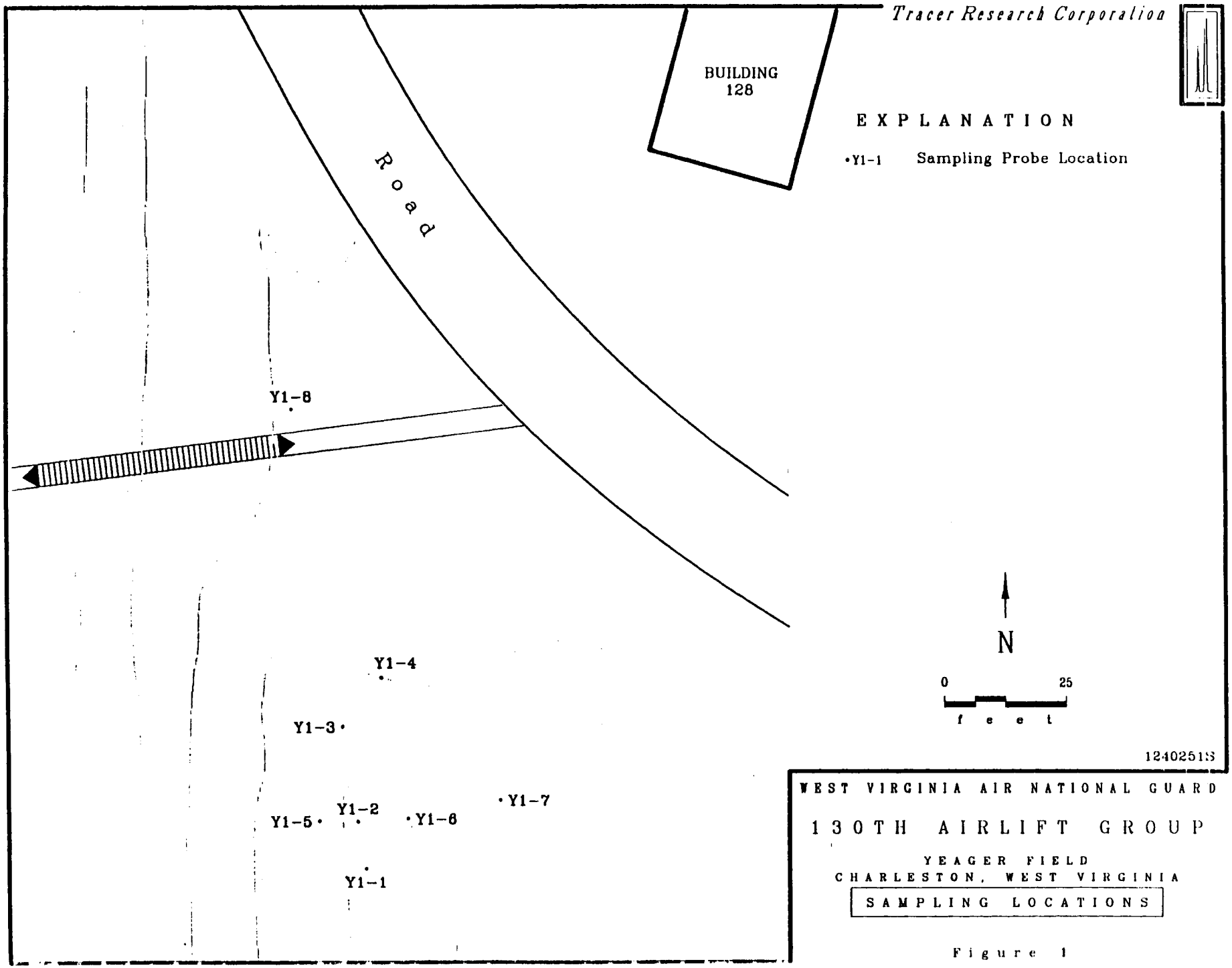

Tracer Research Corporation
BUILDING
128
Road
EXPLANATION
•Y1-1 Sampling Probe Location
Y1-8
Y1-4
Y1-3
Y1-2
Y1-5
Y1-6
Y1-7
Y1-1
N
0
25
f e e t
124025133
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
SAMPLING LOCATIONS

Figure 1

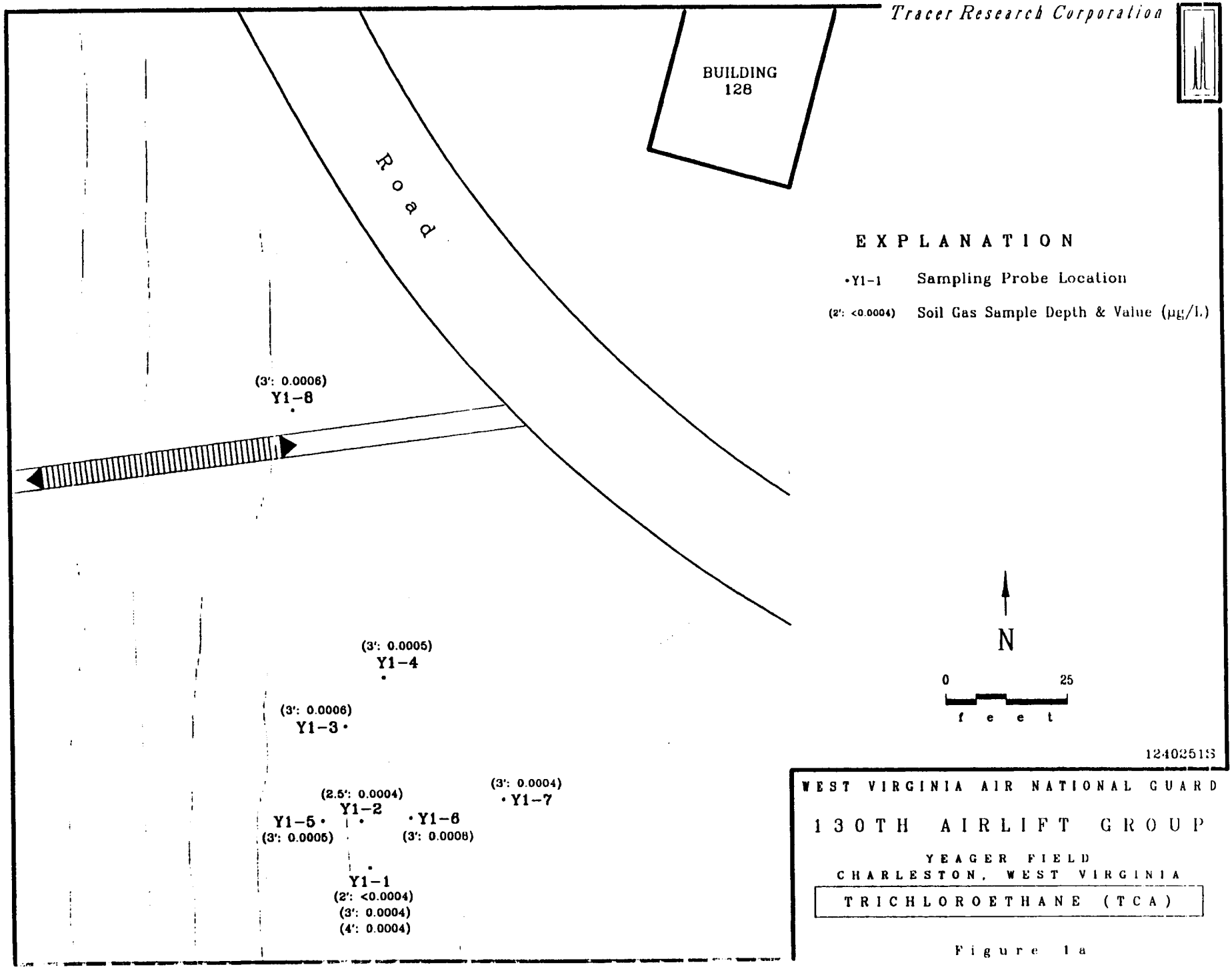

Tracer Research Corporation
BUILDING
128
Road
EXPLANATION
•Y1-1 Sampling Probe Location
(2': <0.0004) Soil Gas Sample Depth & Value (µg/L)
(3': 0.0006)
Y1-8
(3': 0.0005)
Y1-4
(3': 0.0006)
Y1-3
(2.5': 0.0004)
Y1-2
(3': 0.0004)
Y1-7
Y1-5
(3': 0.0005)
Y1-6
(3': 0.0008)
Y1-1
(2': <0.0004)
(3': 0.0004)
(4': 0.0004)
N
0
25
f e e t
124025133
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHANE (TCA)

Figure 1a

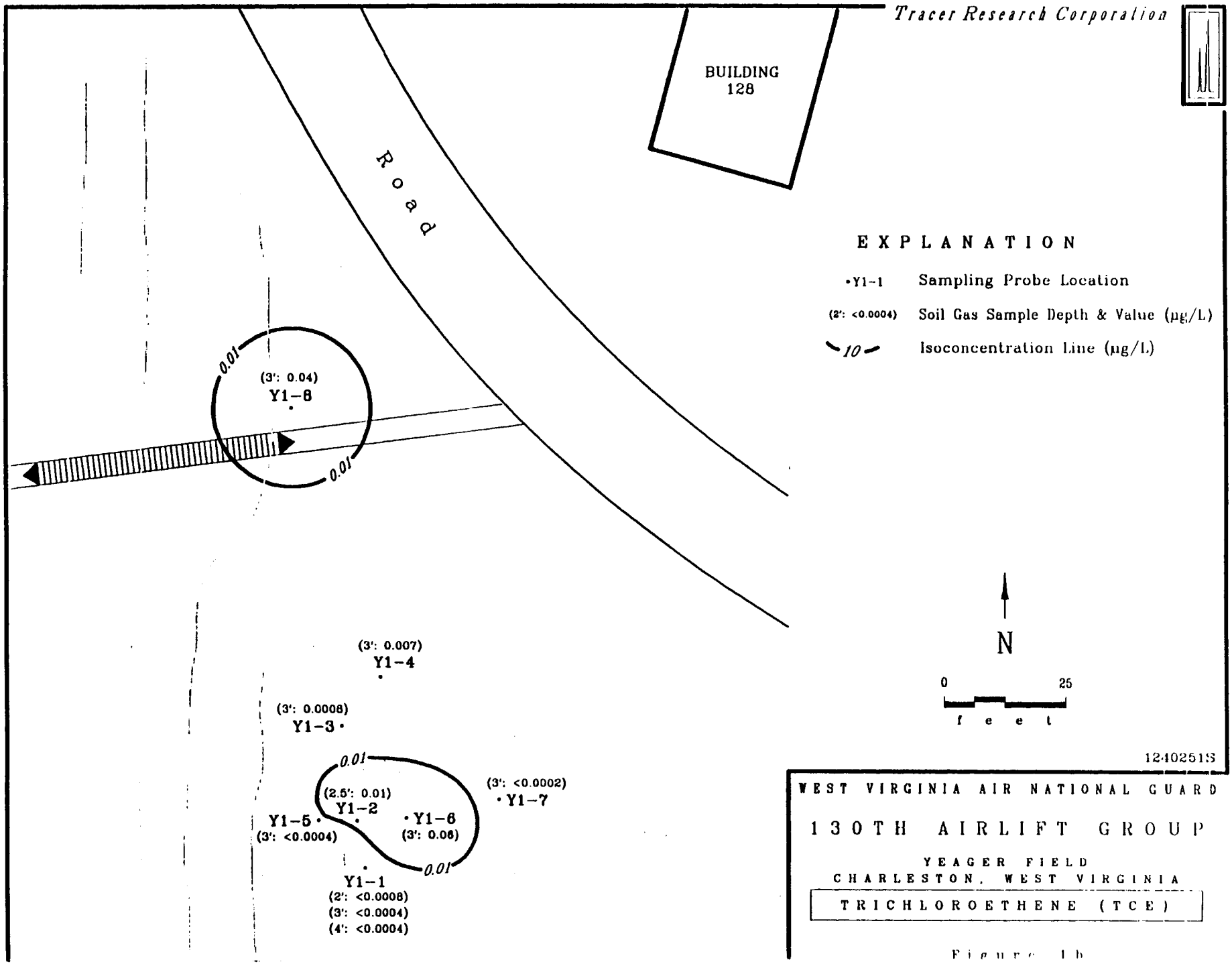

Tracer Research Corporation
BUILDING
128
Road
EXPLANATION
•Y1-1 Sampling Probe Location
(2': <0.0004) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
0.01
(3': 0.04)
Y1-8
0.01
(3': 0.007)
Y1-4
(3': 0.0008)
Y1-3
0.01
(2.5': 0.01)
Y1-2
(3': <0.0002)
Y1-7
Y1-5
(3': <0.0004)
Y1-6
(3': 0.06)
0.01
Y1-1
(2': <0.0008)
(3': <0.0004)
(4': <0.0004)
N
0
25
f e e t
12402513
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHENE (TCE)

Figure 1b

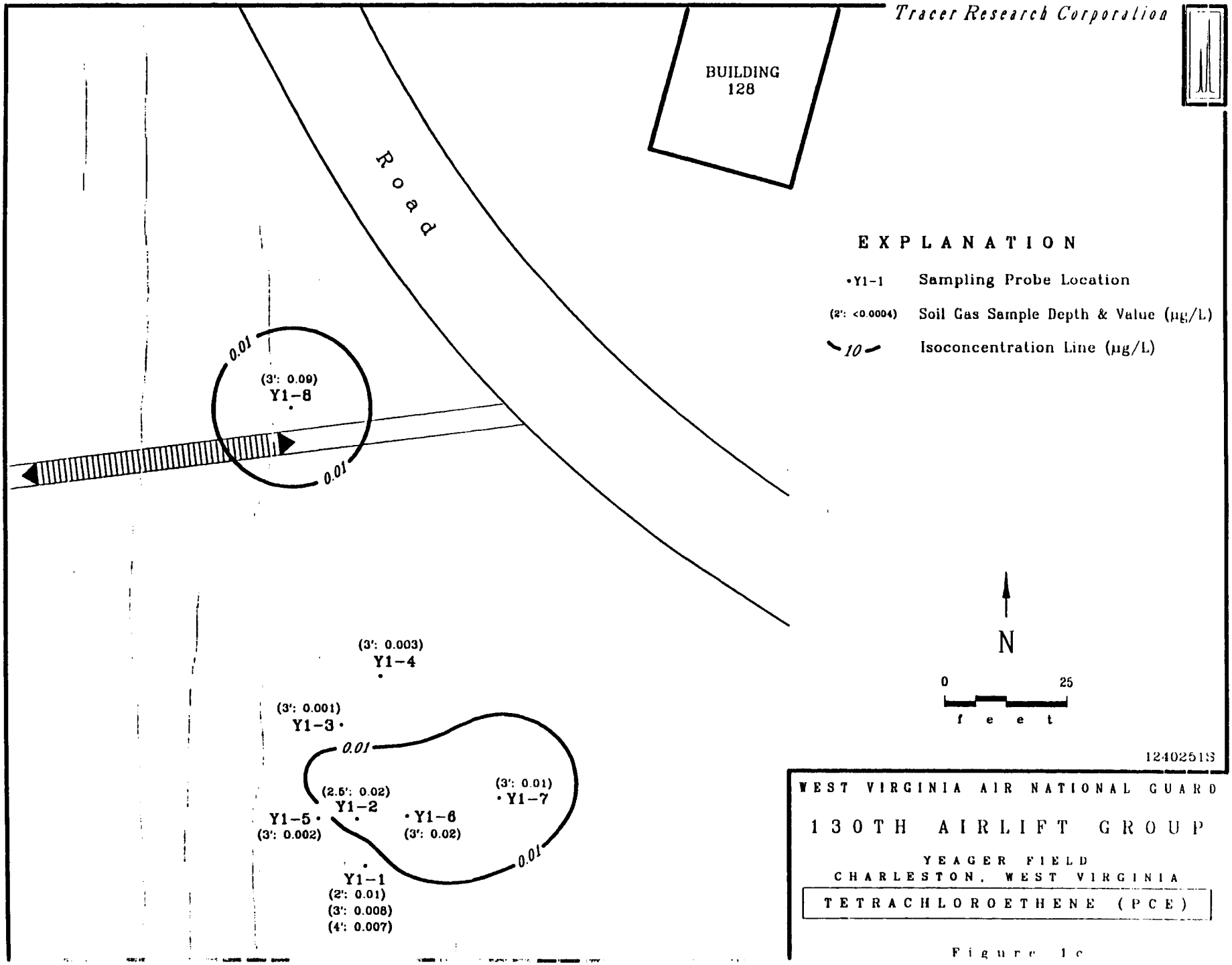

Tracer Research Corporation
BUILDING
128
Road
EXPLANATION
•Y1-1 Sampling Probe Location
(2': <0.0004) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
0.01
(3': 0.09)
Y1-8
0.01
(3': 0.003)
Y1-4
(3': 0.001)
Y1-3
0.01
(2.5': 0.02)
Y1-2
(3': 0.01)
Y1-7
Y1-5
(3': 0.002)
Y1-6
(3': 0.02)
0.01
Y1-1
(2': 0.01)
(3': 0.008)
(4': 0.007)
N
0
25
f e e t
124025138
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TETRACHLOROETHENE (PCE)

Figure 1c

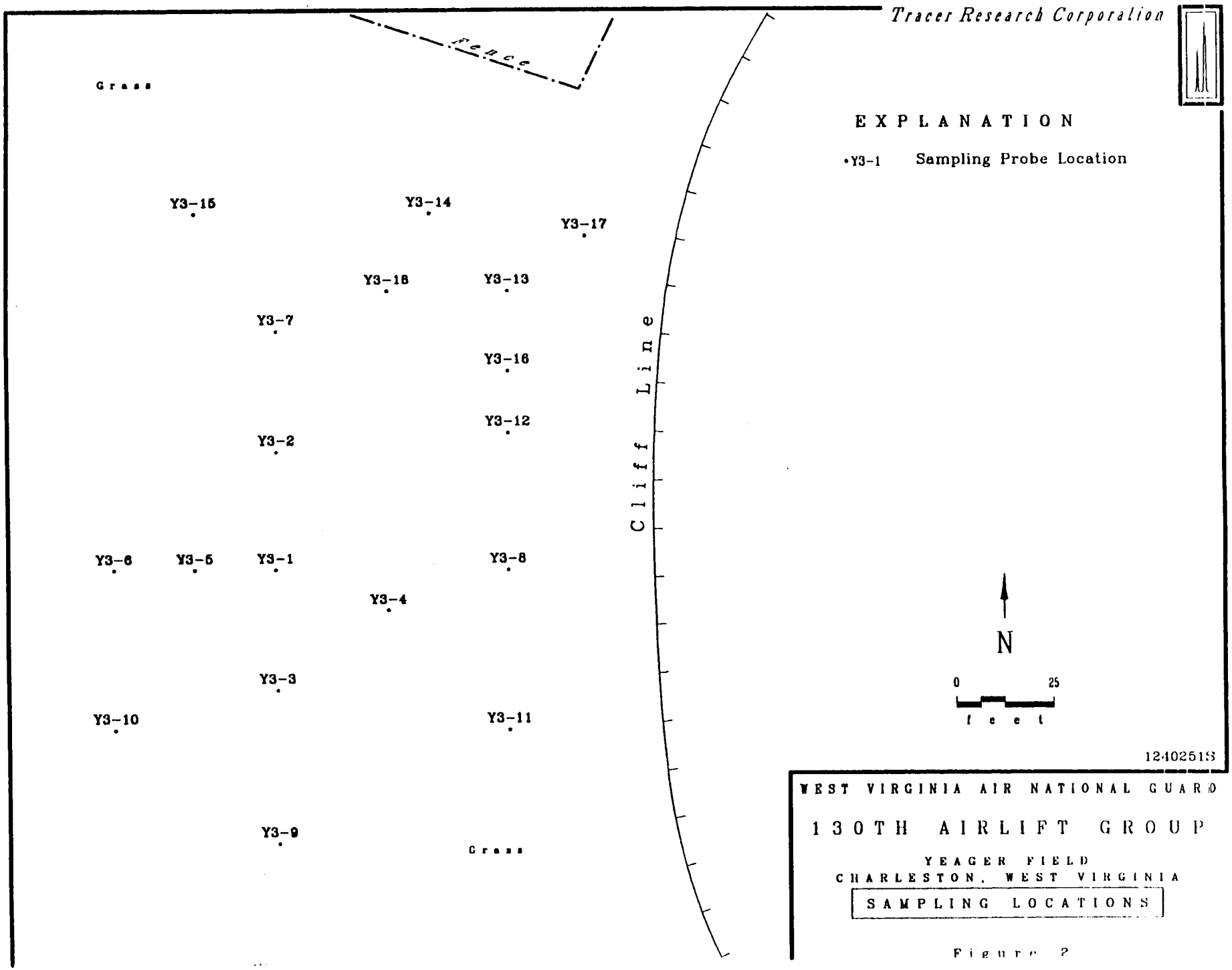

Tracer Research Corporation
Fence
Grass
Y3-15
Y3-14
Y3-17
Y3-18
Y3-13
Y3-7
Y3-16
Y3-12
Y3-2
Cliff Line
Y3-6
Y3-5
Y3-1
Y3-8
Y3-4
Y3-3
Y3-10
Y3-11
Y3-9
Grass
EXPLANATION
•Y3-1 Sampling Probe Location
N
0
25
feet
124025153
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
SAMPLING LOCATIONS

Figure 2

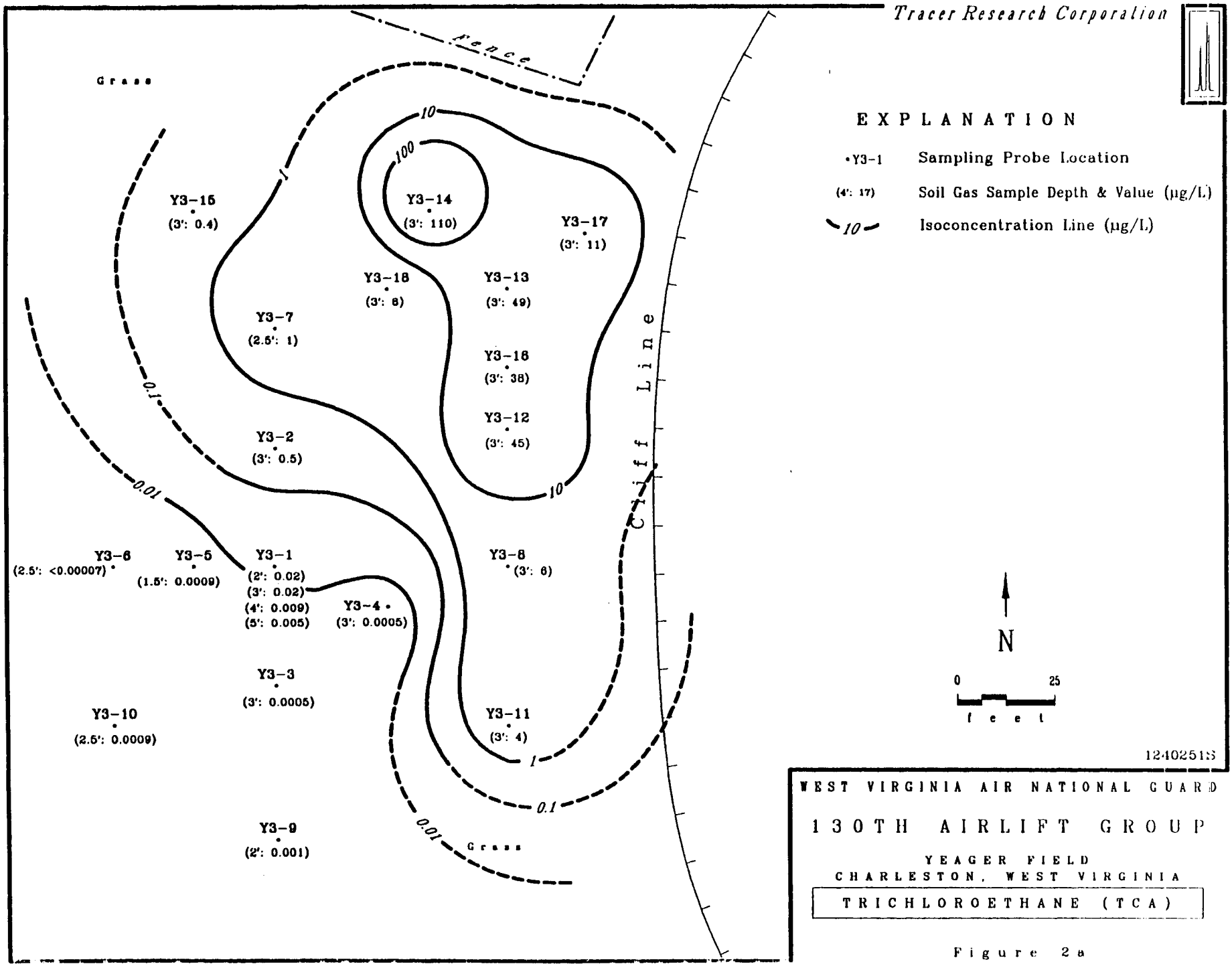

Tracer Research Corporation
EXPLANATION
•Y3-1 Sampling Probe Location
(4': 17) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
Fence
Grass
Y3-15 (3': 0.4)
Y3-14 (3': 110)
Y3-17 (3': 11)
Y3-18 (3': 8)
Y3-13 (3': 49)
Y3-7 (2.5': 1)
Y3-16 (3': 38)
Y3-12 (3': 45)
Y3-2 (3': 0.5)
Y3-6 (2.5': <0.00007)
Y3-5 (1.5': 0.0009)
Y3-1 (2': 0.02) (3': 0.02) (4': 0.009) (5': 0.005)
Y3-4 (3': 0.0005)
Y3-8 (3': 6)
Y3-3 (3': 0.0005)
Y3-10 (2.5': 0.0009)
Y3-11 (3': 4)
Y3-9 (2': 0.001)
Cliff Line
N
0 25
f e e t
124025133
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHANE (TCA)

Figure 2a

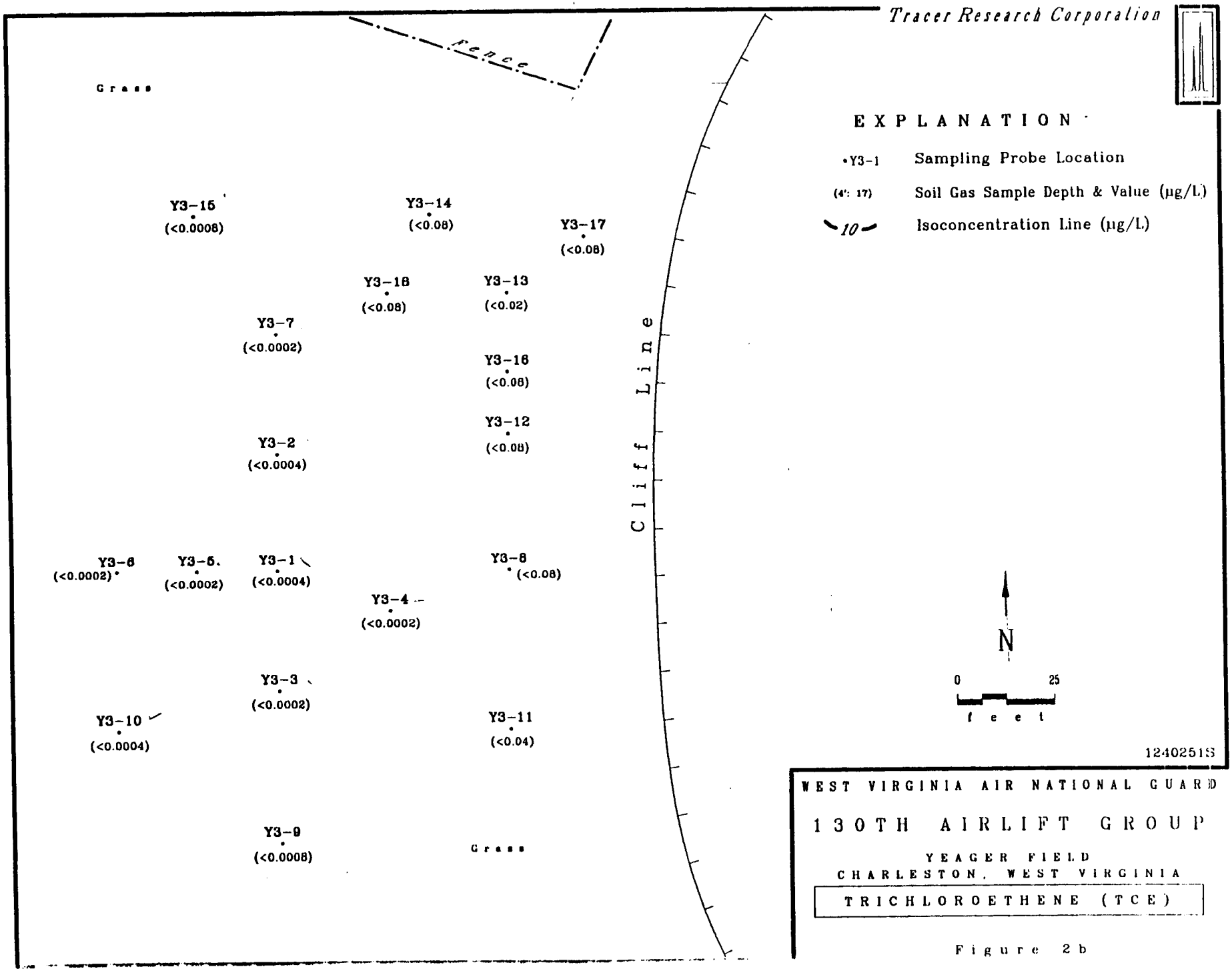
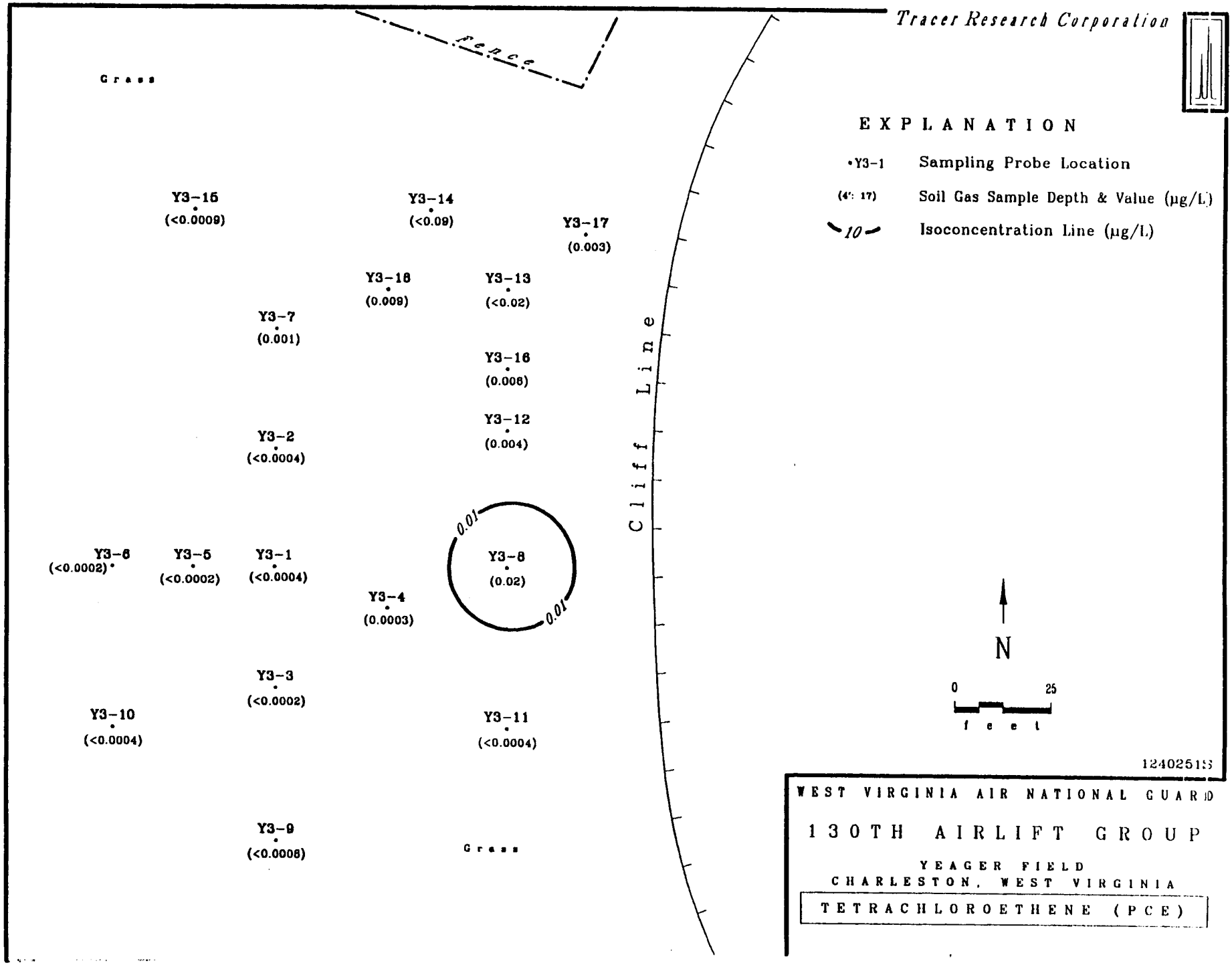

Tracer Research Corporation
Fence
Grass
Cliff Line
Y3-15 (<0.0008)
Y3-14 (<0.08)
Y3-17 (<0.08)
Y3-18 (<0.08)
Y3-13 (<0.02)
Y3-7 (<0.0002)
Y3-16 (<0.08)
Y3-12 (<0.08)
Y3-2 (<0.0004)
Y3-6 (<0.0002)
Y3-5 (<0.0002)
Y3-1 (<0.0004)
Y3-8 (<0.08)
Y3-4 (<0.0002)
Y3-3 (<0.0002)
Y3-10 (<0.0004)
Y3-11 (<0.04)
Y3-9 (<0.0008)
Grass
EXPLANATION
•Y3-1 Sampling Probe Location
(4': 17) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
N
0 25
f e e t
12402518
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHENE (TCE)

Figure 2b


Tracer Research Corporation
Fence
Grass
Cliff Line
EXPLANATION
•Y3-1 Sampling Probe Location
(4': 17) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
Y3-15 (<0.0009)
Y3-14 (<0.09)
Y3-17 (0.003)
Y3-18 (0.009)
Y3-13 (<0.02)
Y3-7 (0.001)
Y3-16 (0.006)
Y3-12 (0.004)
Y3-2 (<0.0004)
0.01
Y3-6 (<0.0002)
Y3-5 (<0.0002)
Y3-1 (<0.0004)
Y3-8 (0.02)
0.01
Y3-4 (0.0003)
Y3-3 (<0.0002)
Y3-10 (<0.0004)
Y3-11 (<0.0004)
Y3-9 (<0.0008)
Grass
N
0
25
feet
124025133
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TETRACHLOROETHENE (PCE)

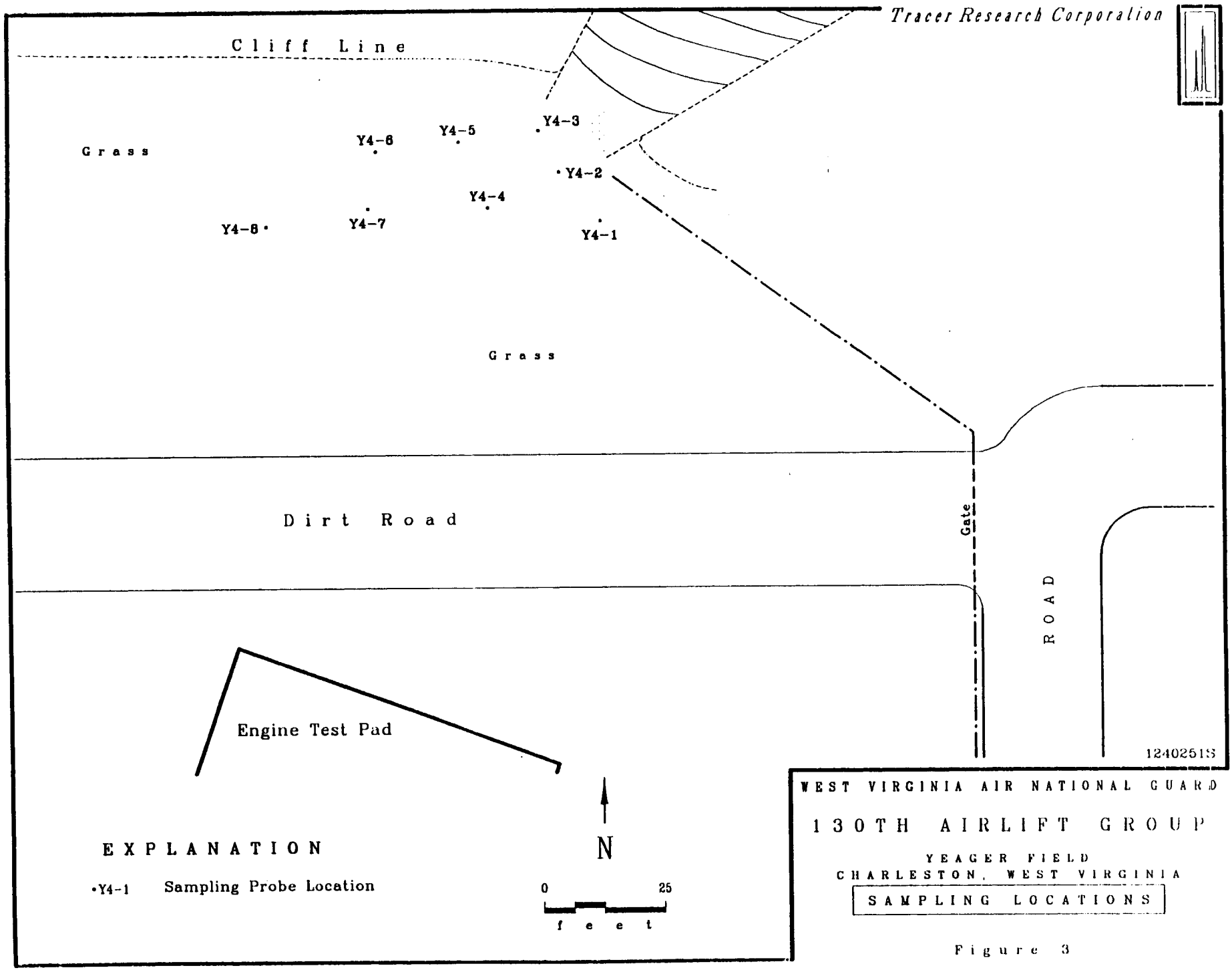
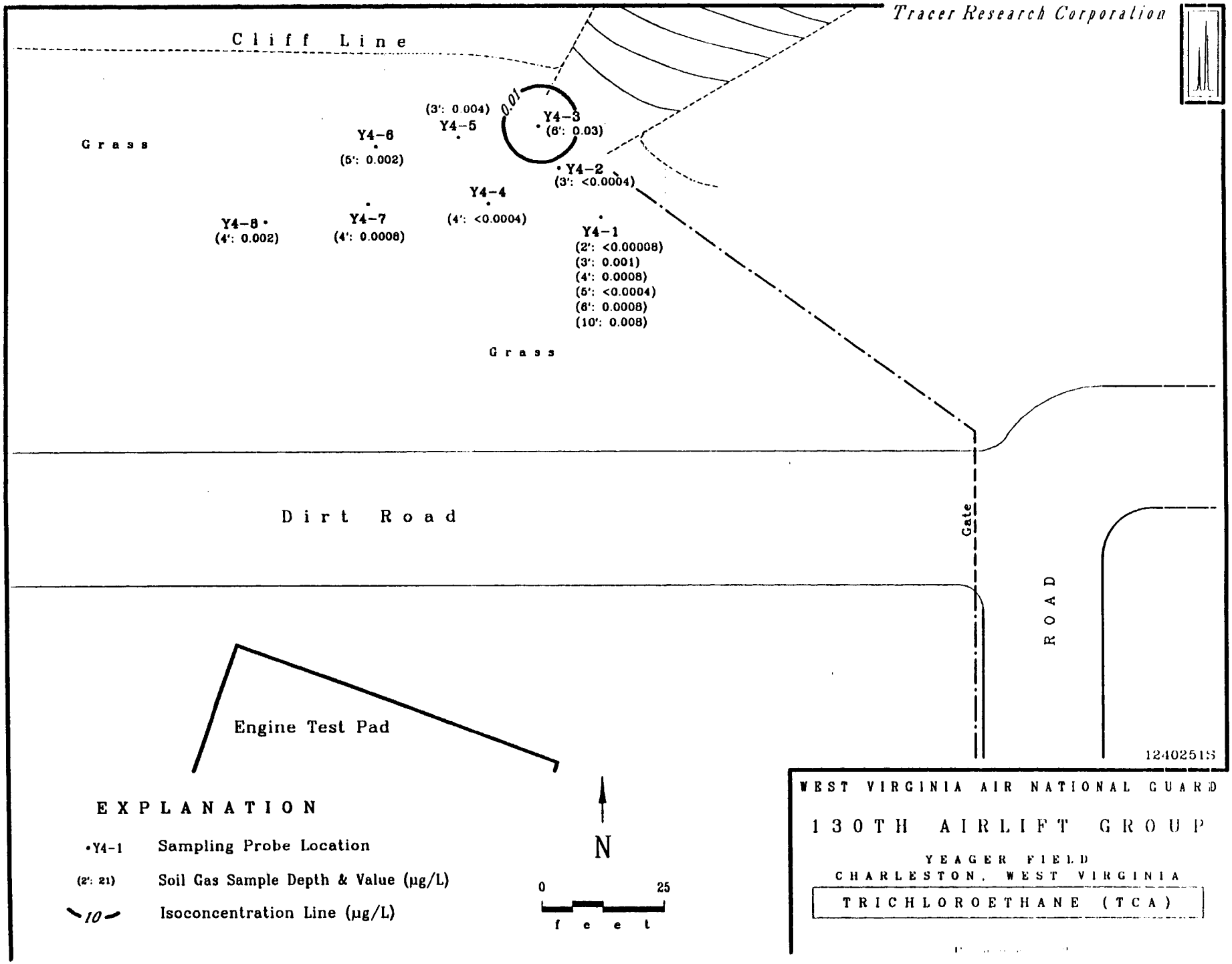

Tracer Research Corporation
Cliff Line
Grass
Y4-6
Y4-5
Y4-3
Y4-2
Y4-4
Y4-8
Y4-7
Y4-1
Grass
Dirt Road
Gate
ROAD
Engine Test Pad
12402518
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
SAMPLING LOCATIONS
EXPLANATION
•Y4-1 Sampling Probe Location
N
0
25
feet

Figure 3


Tracer Research Corporation
Cliff Line
Grass
(3': 0.004)
Y4-5
0.01
Y4-3
(6': 0.03)
Y4-6
(5': 0.002)
Y4-2
(3': <0.0004)
Y4-4
(4': <0.0004)
Y4-8
(4': 0.002)
Y4-7
(4': 0.0008)
Y4-1
(2': <0.00008)
(3': 0.001)
(4': 0.0008)
(5': <0.0004)
(6': 0.0008)
(10': 0.008)
Grass
Dirt Road
Gate
ROAD
Engine Test Pad
EXPLANATION
•Y4-1 Sampling Probe Location
(2': 21) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
N
0
25
f e e t
12402513
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHANE (TCA)

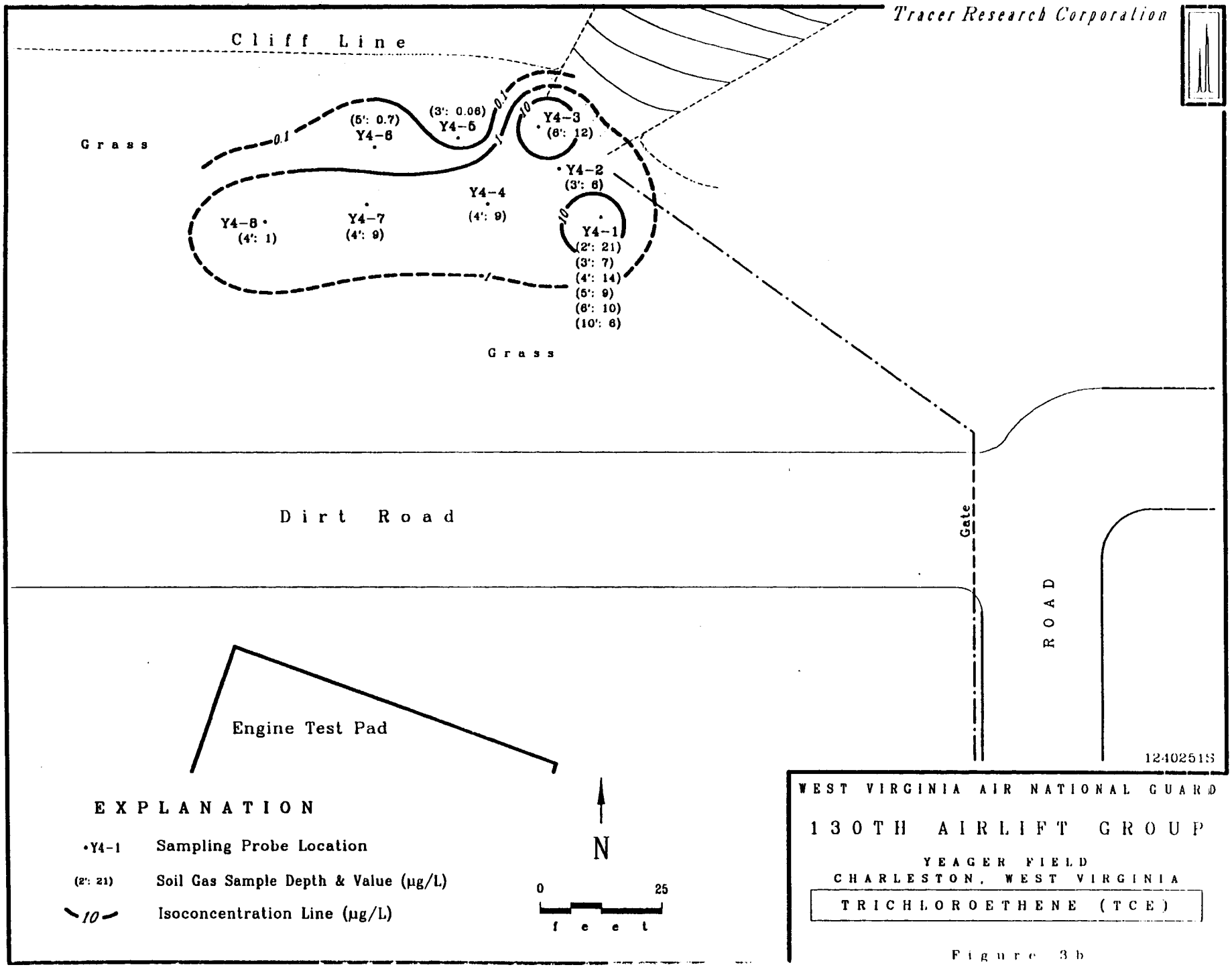
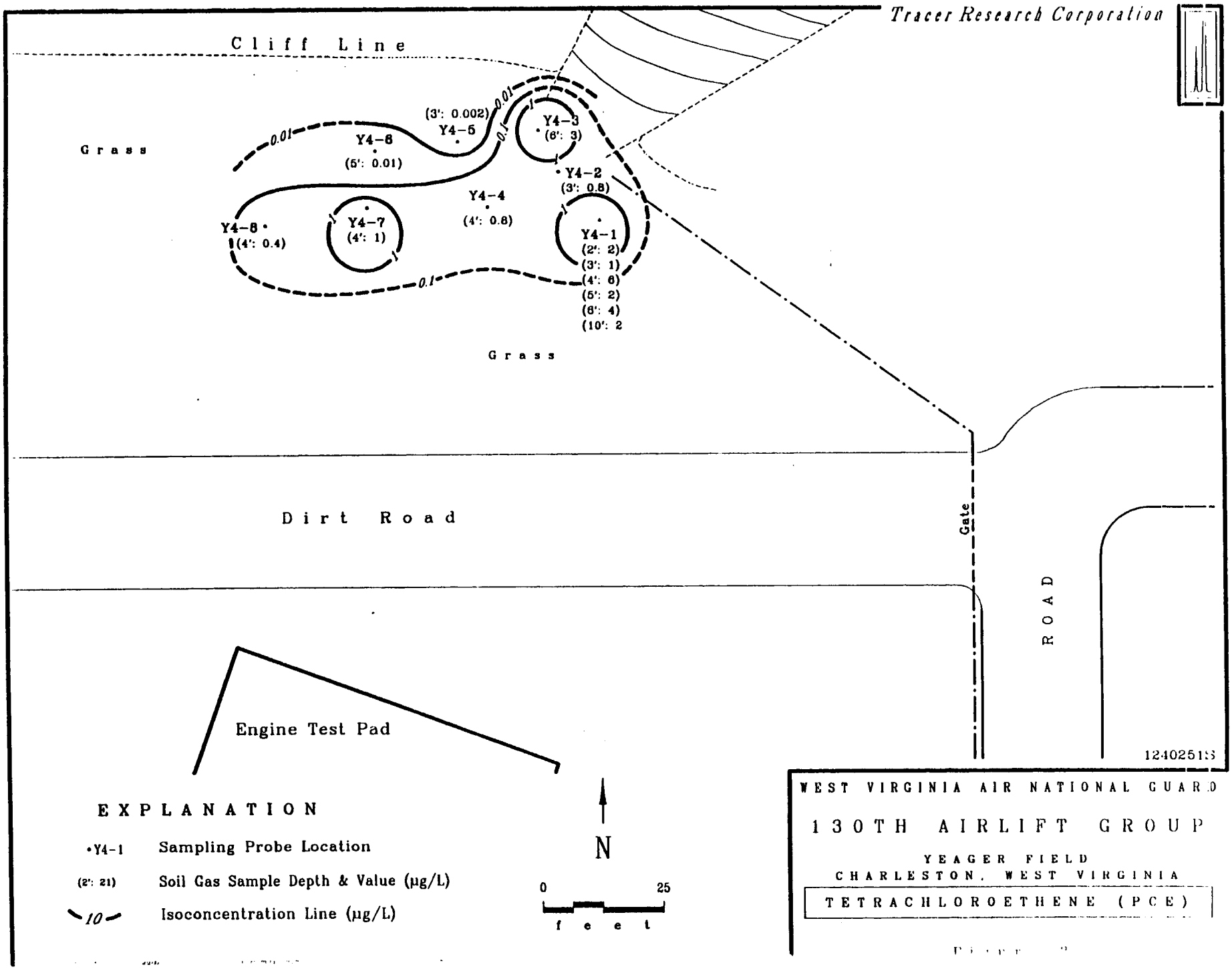
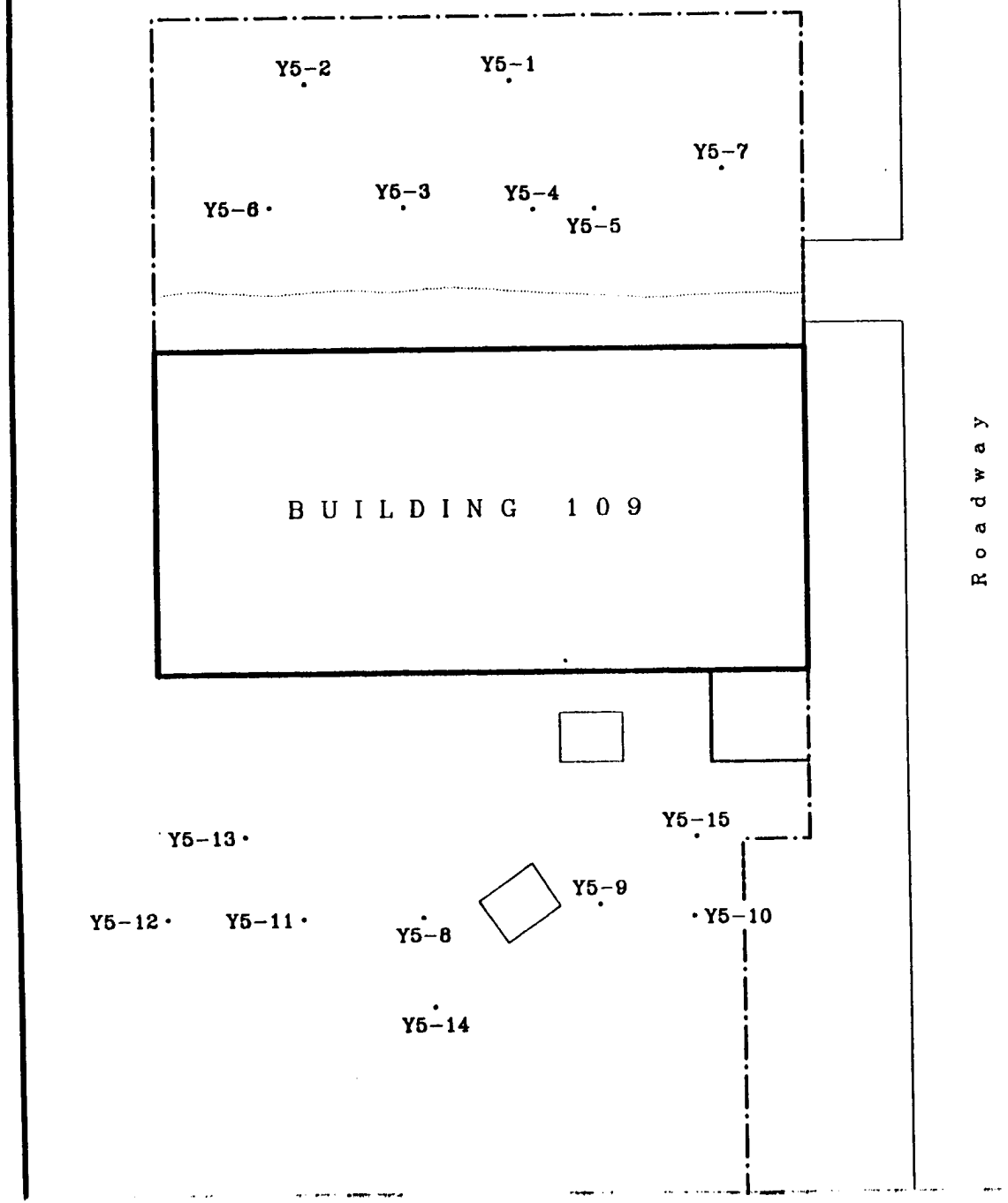

Tracer Research Corporation
Cliff Line
Grass
0.1
(5': 0.7)
Y4-6
(3': 0.06)
Y4-5
0.1
1
10
Y4-3
(6': 12)
Y4-2
(3': 6)
Y4-4
(4': 9)
Y4-8
(4': 1)
Y4-7
(4': 9)
10
Y4-1
(2': 21)
(3': 7)
(4': 14)
(5': 9)
(6': 10)
(10': 6)
Grass
Dirt Road
Gate
ROAD
Engine Test Pad
EXPLANATION
•Y4-1 Sampling Probe Location
(2': 21) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
N
0
25
f e e t
124025IS
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TRICHLOROETHENE (TCE)

Figure 3b


Tracer Research Corporation
Cliff Line
Grass
Y4-6
(5': 0.01)
(3': 0.002)
Y4-5
Y4-3
(6': 3)
Y4-2
(3': 0.8)
Y4-4
(4': 0.8)
Y4-8
(4': 0.4)
Y4-7
(4': 1)
Y4-1
(2': 2)
(3': 1)
(4': 6)
(5': 2)
(6': 4)
(10': 2
0.01
0.1
Grass
Dirt Road
Gate
ROAD
Engine Test Pad
EXPLANATION
•Y4-1 Sampling Probe Location
(2': 21) Soil Gas Sample Depth & Value (µg/L)
10 Isoconcentration Line (µg/L)
N
0
25
f e e t
WEST VIRGINIA AIR NATIONAL GUARD
130TH AIRLIFT GROUP
YEAGER FIELD
CHARLESTON, WEST VIRGINIA
TETRACHLOROETHENE (PCE)



EXPLANATION

•Y5-1 Sampling Probe Location

N

0 25

f e e t

12402513

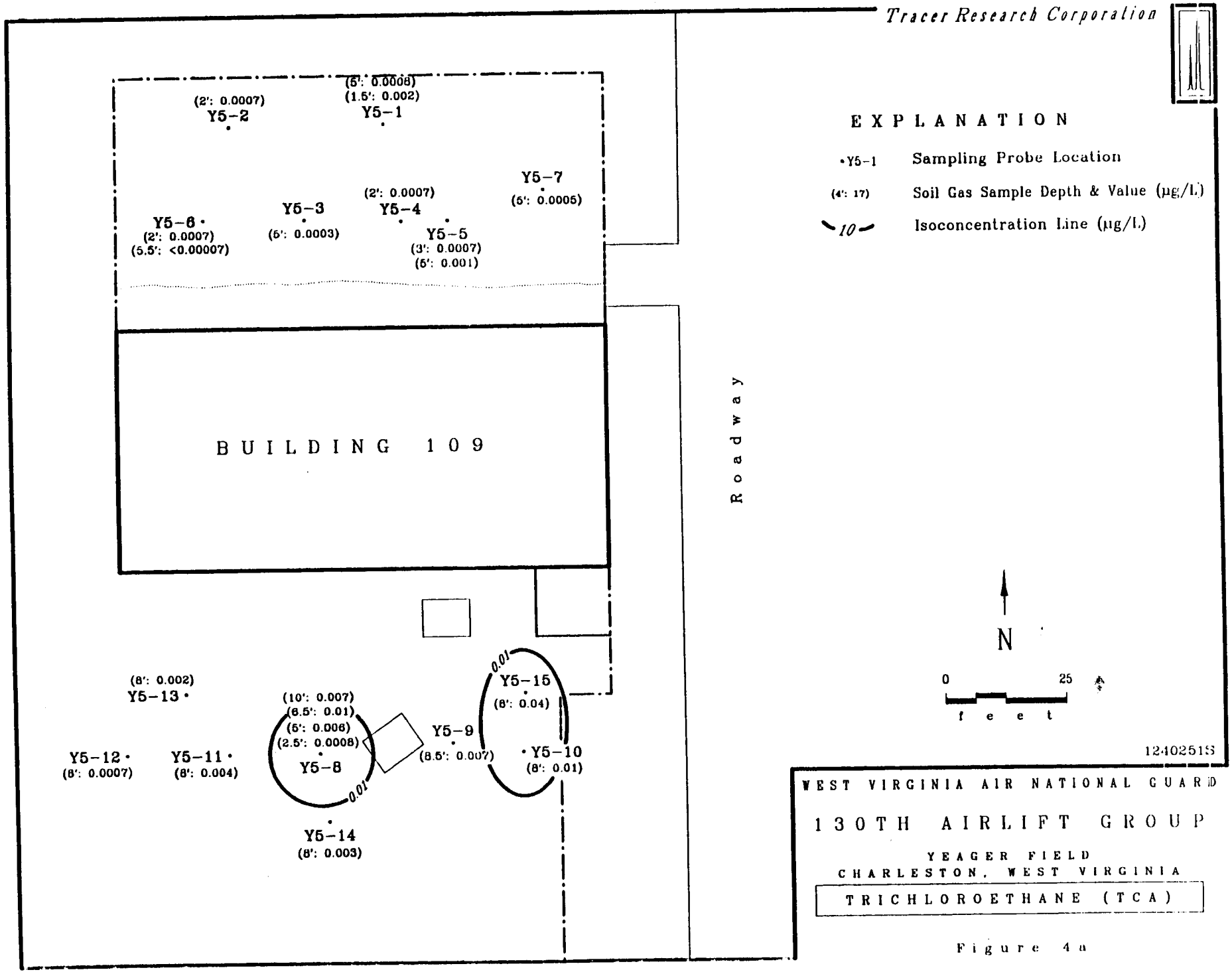
WEST VIRGINIA AIR NATIONAL GUARD

130TH AIRLIFT GROUP

YEAGER FIELD
CHARLESTON, WEST VIRGINIA

SAMPLING LOCATIONS

Figure 4



12402515

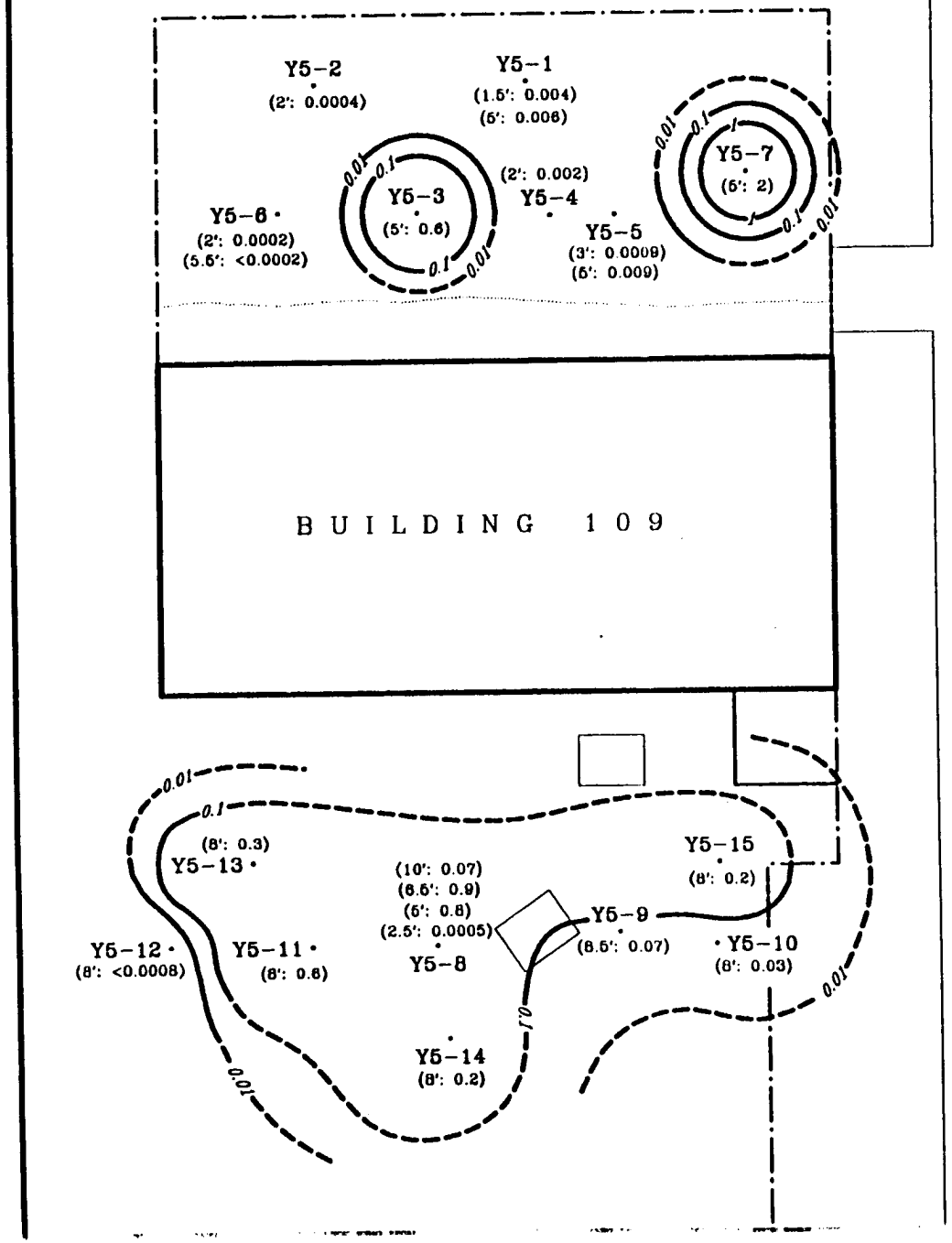
WEST VIRGINIA AIR NATIONAL GUARD

130TH AIRLIFT GROUP

YEAGER FIELD
CHARLESTON, WEST VIRGINIA

TRICHLOROETHANE (TCA)

Figure 4a



EXPLANATION

- •Y5-1 — Sampling Probe Location
- (4': 17) — Soil Gas Sample Depth & Value (µg/L)
- 10 — Isoconcentration Line (µg/L)

N

0 25

f e e t

12402515

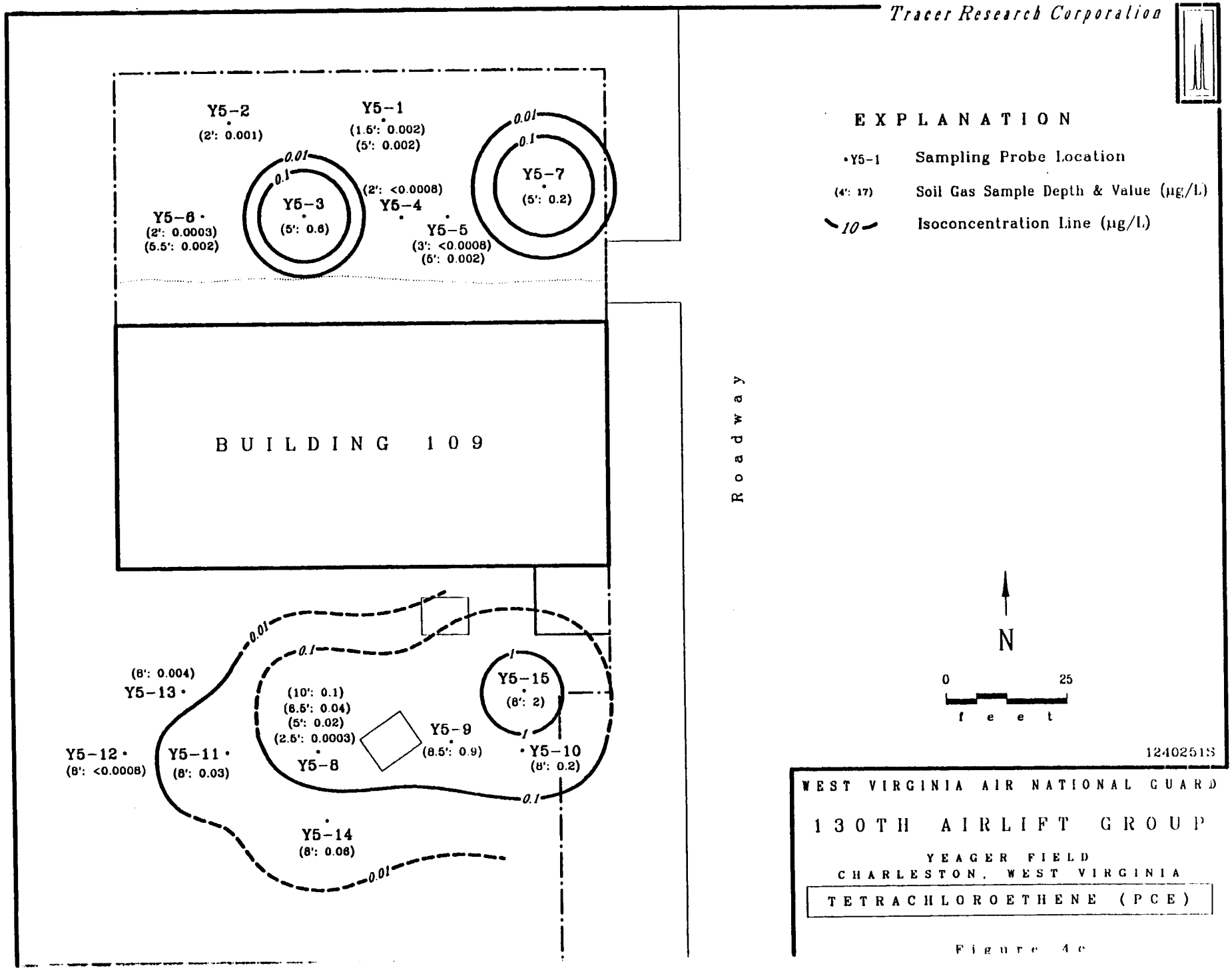
WEST VIRGINIA AIR NATIONAL GUARD

130TH AIRLIFT GROUP

YEAGER FIELD
CHARLESTON, WEST VIRGINIA

TRICHLOROETHENE (TCE)

Figure 4b



EXPLANATION

- •Y5-1 — Sampling Probe Location
- (4': 17) — Soil Gas Sample Depth & Value (µg/L)
- 10 — Isoconcentration Line (µg/L)

12402515

WEST VIRGINIA AIR NATIONAL GUARD

130TH AIRLIFT GROUP

YEAGER FIELD
CHARLESTON, WEST VIRGINIA

TETRACHLOROETHENE (PCE)

Figure 4c



Tracer Research Corporation appreciates the opportunity of being of service to your organization. Because we are constantly striving to improve our service to you, we welcome any comments or suggestions you may have about how we can be more responsive to the needs of your organization. If you have any questions about the field work, analytical results, or this report, please give Mike Gervasini a call at (908) 274-1888.

APPENDIX D

AQUIFER TEST RESULTS

Slug Test Analysis – Bouwer & Rice/Hvorslev's Methods

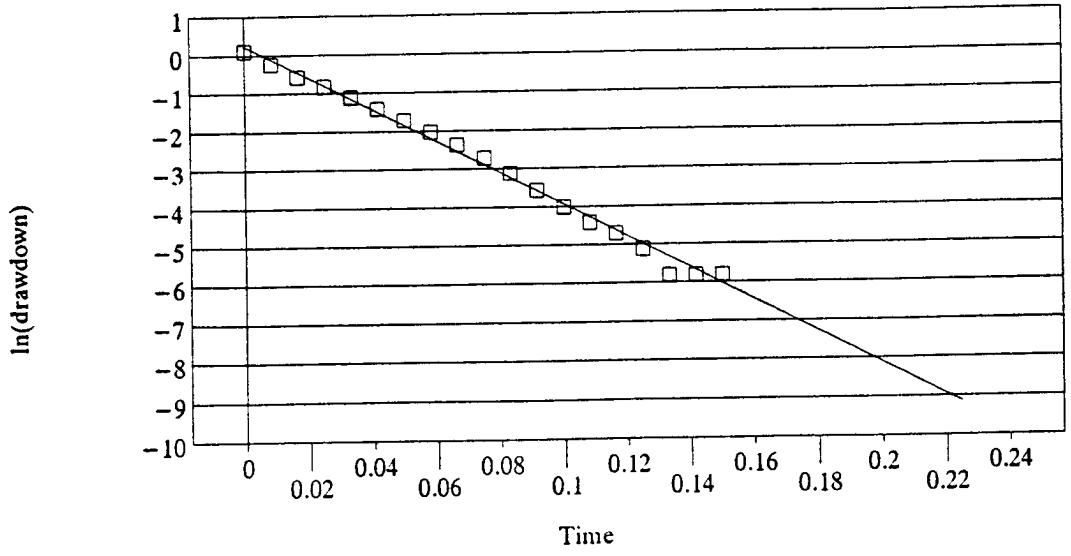
Client:	MMES– HAZWRAP	Version:	2.5.6
Site:	WVANG Yeager Airport, Charleston, WV	Revised:	12/08/93
Test by:	B. Critchfield	Well ID:	WVB–MW1
Analysis:	Karl DeBisschop	Date:	06/03/95
		Date:	06/05/95

User Input Data					
	Automatic		A =	2.0	NA
Aquifer Thickness	18.0	**Calculation**	B =	0.32	NA
Intake Length (L_1)	10.0	(undrained)	C =	1.4	NA
Well Length (L_W)	12.0				
		R_{equiv}	0.0830	NA	NA
Casing Radius(R_C)	0.08	Estimated Porosity & R_W		NA	NA
Well Radius (R_W)	0.660	$\log(L_1/R_W)$		1.1805	NA
		$\ln(R_E/R_W)$		1.7994	NA
Sandpack Porosity	0.330	Shape Factor		23.1	NA
Slug Volume	0.033				
Static Level	6.7500		Maximum Y_t	Regressed Y_o	Casing Y_o
Offset time	0	Drawdown	0.56	1.27	1.51

	ft/min	cm/sec	ft/day
Bouwer & Rice – user porosity & well radius	2.6E–02	1.3E–02	37.27
Bouwer & Rice – estimated porosity	NA	NA	NA
Bouwer & Rice – estimated well radius	NA	NA	NA
Hvorslev – user porosity and well radius	3.9E–02	2.0E–02	56.30
Hvorslev – estimated porosity	NA	NA	NA
Hvorslev – estimated well radius	NA	NA	NA

Regression Output:	
Constant	0.243
Std Err of Y Est	0.128
R Squared	0.994
No. of Observations	16
Degrees of Freedom	14
X Coefficient(s)	–41.762
Std Err of Coef.	0.831

COMMENTS:



Slug Test Analysis – Bouwer & Rice/Hvorslev's Methods
Client: MMES– HAZWRAP
Site: WVANG Yeager Airport, Charleston, WV
Test by: B. Critchfield
Analysis: Karl DeBisschop

Version: 2.5.6
Revised: 12/08/93
Well ID: WVB–MW1
Date: 06/03/95
Date: 06/05/95

Time (min)	level (ft)	Drawdown Y(t) ft	ln(Y)	Indicate Regression Range	Est. ln(Y)
0	7.863	1.11	0.11	start	0.2428
0.0083	7.538	0.79	−0.24		−0.1038
0.0166	7.314	0.56	−0.57		−0.4505
0.025	7.188	0.44	−0.83		−0.8013
0.0333	7.078	0.33	−1.11		−1.1479
0.0416	6.992	0.24	−1.42		−1.4945
0.05	6.929	0.18	−1.72		−1.8453
0.0583	6.882	0.13	−2.02		−2.1919
0.0666	6.844	0.09	−2.36		−2.5386
0.075	6.816	0.07	−2.72		−2.8894
0.0833	6.794	0.04	−3.12		−3.2360
0.0916	6.778	0.03	−3.58		−3.5826
0.1	6.768	0.02	−4.02		−3.9334
0.1083	6.762	0.01	−4.42		−4.2801
0.1166	6.759	0.01	−4.71		−4.6267
0.125	6.756	0.01	−5.12		−4.9775
0.1333	6.753	0.00	−5.81	end	−5.3241
0.1416	6.753	0.00	−5.81		−5.6708
0.15	6.753	0.00	−5.81		−6.0216
0.1583	6.75	0.00	NA		−6.3682
0.1666	6.75	0.00	NA		−6.7148
0.175	6.75	0.00	NA		−7.0656
0.1833	6.75	0.00	NA		−7.4123
0.1916	6.75	0.00	NA		−7.7589
0.2	6.75	0.00	NA		−8.1097
0.2083	6.75	0.00	NA		−8.4563
0.2166	6.75	0.00	NA		−8.8029
0.225	6.75	0.00	NA		−9.1537

Environmental Logger
06/03 11:17

Unit# 2K-00635 Test 1

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	
Reference	6.750
PSI at Ref.	2.812
SG	1.000
Linearity	0.052
Scale factor	9.975
Offset	0.026
Delay mSEC	50.000

Step 0 06/03 09:28:52

Elapsed Time	INPUT 1
0.0000	7.863
0.0083	7.538
0.0166	7.314
0.0250	7.188
0.0333	7.078
0.0416	6.992
0.0500	6.929
0.0583	6.882
0.0666	6.844
0.0750	6.816
0.0833	6.794
0.0916	6.778
0.1000	6.768
0.1083	6.762
0.1166	6.759
0.1250	6.756
0.1333	6.753
0.1416	6.753
0.1500	6.753
0.1583	6.750
0.1666	6.750
0.1750	6.750
0.1833	6.750
0.1916	6.750
0.2000	6.750
0.2083	6.750
0.2166	6.750
0.2250	6.750
0.2333	6.746
0.2416	6.746
0.2500	6.746
0.2583	6.746
0.2666	6.746
0.2750	6.746
0.2833	6.746

0.2916	6.746
0.3000	6.746
0.3083	6.746
0.3166	6.746
0.3250	6.746
0.3333	6.746
0.3500	6.746
0.3666	6.746
0.3833	6.746
0.4000	6.746
0.4166	6.746
0.4333	6.746
0.4500	6.746
0.4666	6.746
0.4833	6.746
0.5000	6.746
0.5166	6.746
0.5333	6.746
0.5500	6.746
0.5666	6.746
0.5833	6.746
0.6000	6.746
0.6166	6.746
0.6333	6.746
0.6500	6.746
0.6666	6.746
0.6833	6.746
0.7000	6.746
0.7166	6.746
0.7333	6.746
0.7500	6.746
0.7666	6.743
0.7833	6.743
0.8000	6.746
0.8166	6.746
0.8333	6.746
0.8500	6.746
0.8666	6.746
0.8833	6.746
0.9000	6.746
0.9166	6.746
0.9333	6.746
0.9500	6.746
0.9666	6.746
0.9833	6.746
1.0000	6.746
1.2000	6.746
1.4000	6.746
1.6000	6.746
1.8000	6.746
2.0000	6.746
2.2000	6.746
2.4000	6.746
2.6000	6.746

SE2000
Environmental Logger
06/03 11:36

Unit# 2K-00635 Test 1

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	
Reference	6.750
PSI at Ref.	2.812
SG	1.000
Linearity	0.052
Scale factor	9.975
Offset	0.026
Delay mSEC	50.000

Step 0 06/03 09:28:52

Elapsed Time	INPUT 1
0.6666	6.746
0.6833	6.746
0.7000	6.746
0.7166	6.746
0.7333	6.746
0.7500	6.746
0.7666	6.743
0.7833	6.743
0.8000	6.746
0.8166	6.746
0.8333	6.746
0.8500	6.746
0.8666	6.746
0.8833	6.746
0.9000	6.746
0.9166	6.746
0.9333	6.746
0.9500	6.746
0.9666	6.746
0.9833	6.746
1.0000	6.746
1.2000	6.746
1.4000	6.746
1.6000	6.746
1.8000	6.746
2.0000	6.746
2.2000	6.746
2.4000	6.746
2.6000	6.746
2.8000	6.746
3.0000	6.746
3.2000	6.746

3.4000	6.746
3.6000	6.746
3.8000	6.746
4.0000	6.746
4.2000	6.746
4.4000	6.746
4.6000	6.746
4.8000	6.746
5.0000	6.746
5.2000	6.746
5.4000	6.746
5.6000	6.746
5.8000	6.746
6.0000	6.746
6.2000	6.746
6.4000	6.750
6.6000	6.750
6.8000	6.746
7.0000	6.750
7.2000	6.750
7.4000	6.750
7.6000	6.750
7.8000	6.750
8.0000	6.750
8.2000	6.750
8.4000	6.750
8.6000	6.750
8.8000	6.750

END

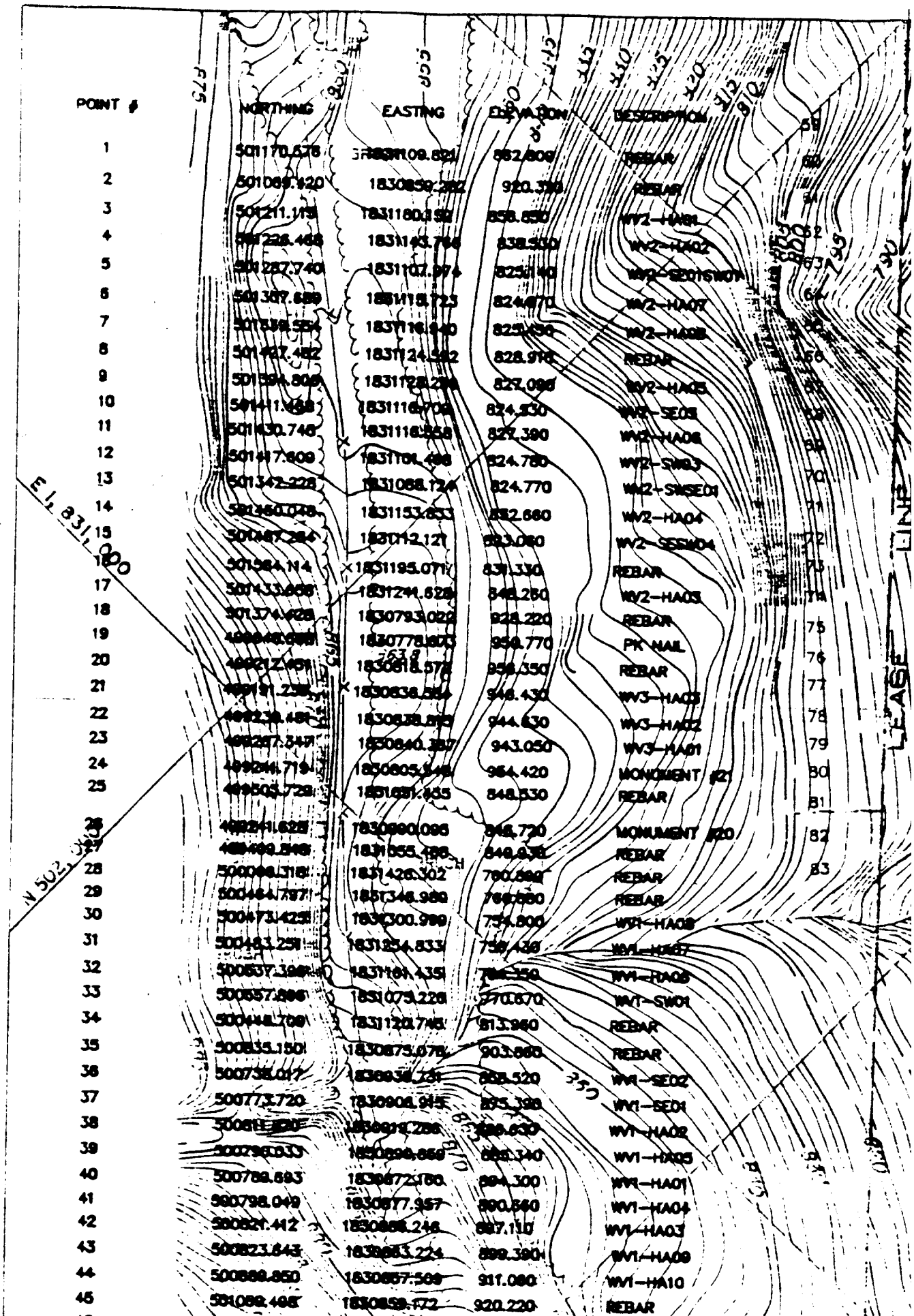
APPENDIX E

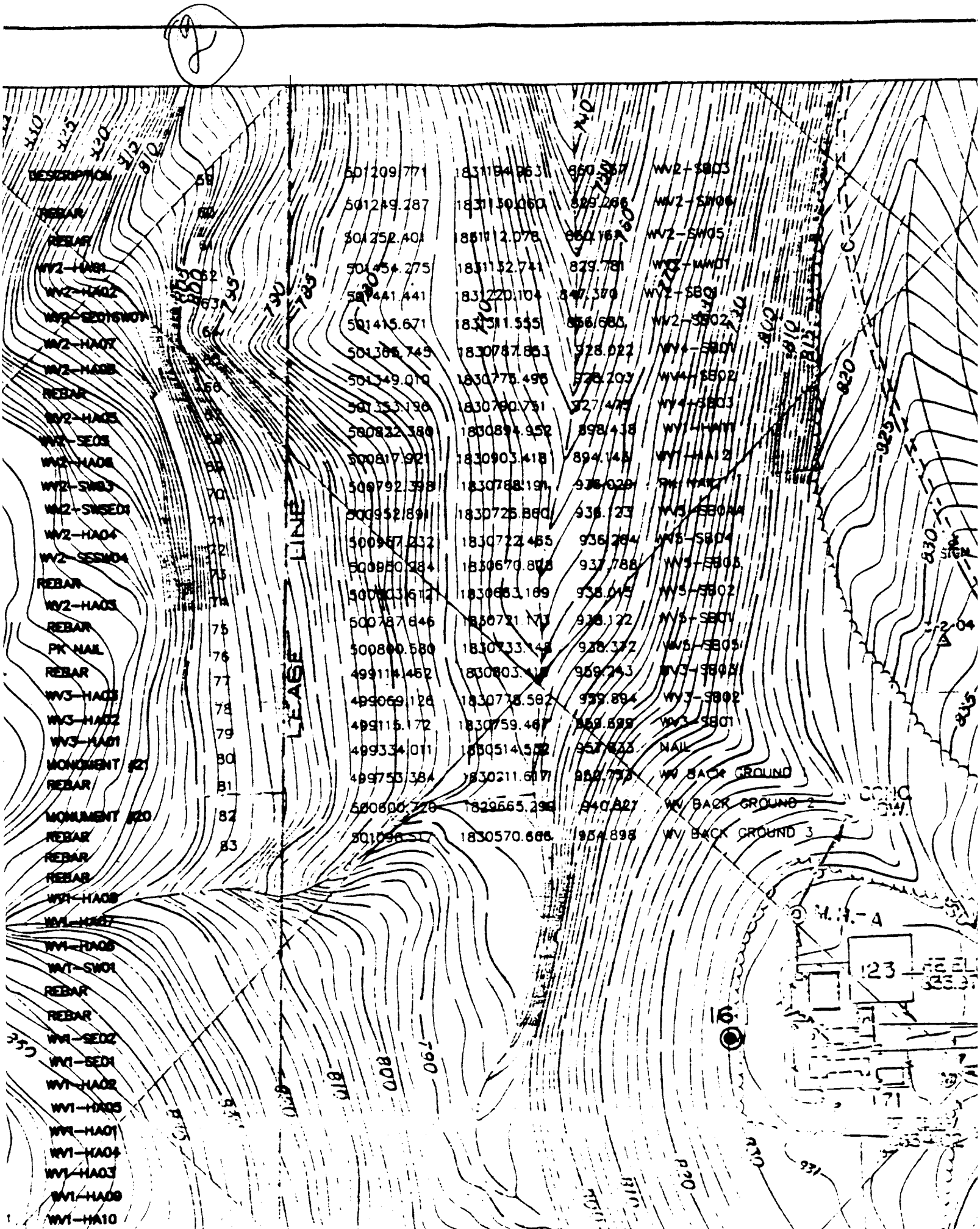
SURVEY DATA

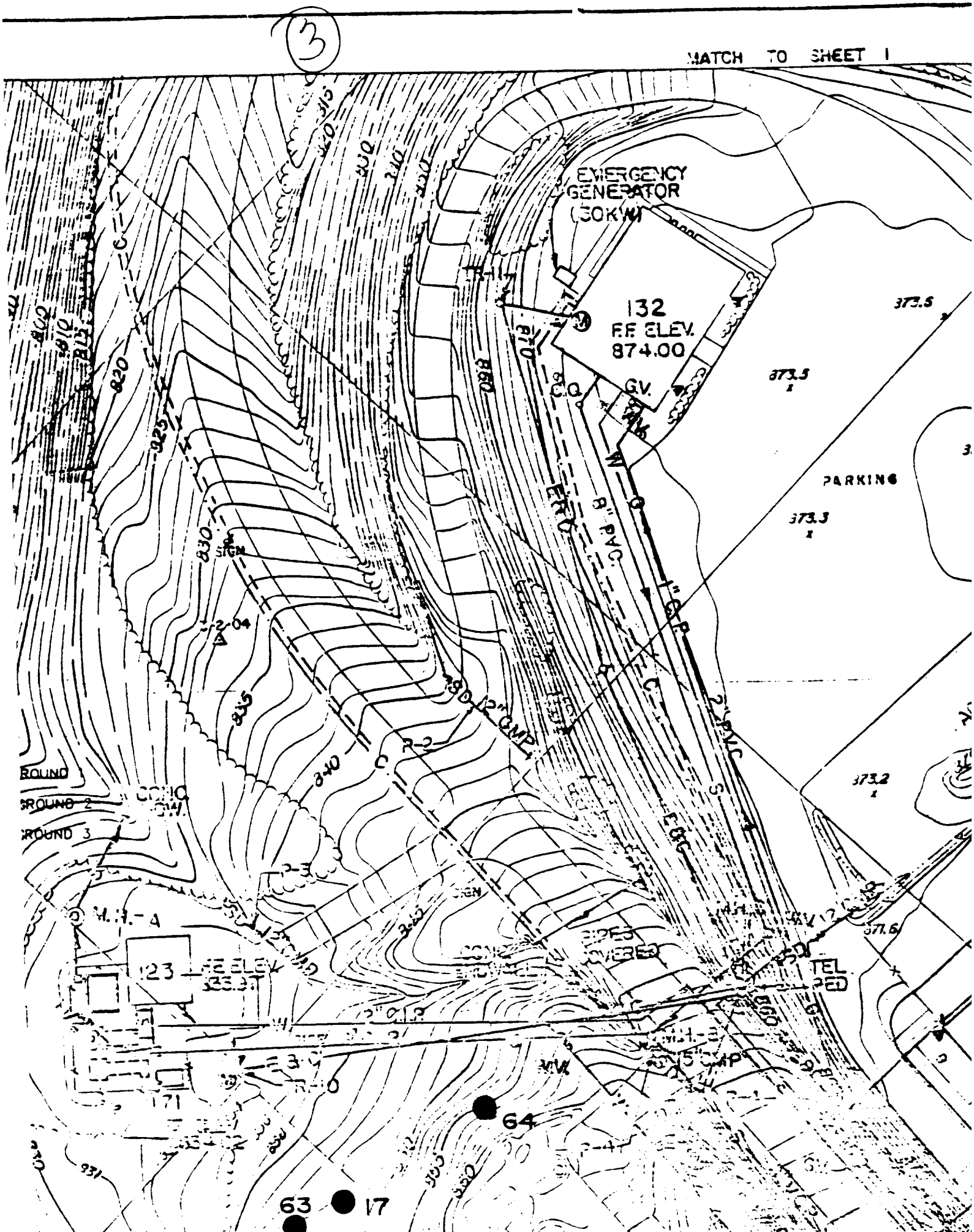
NOTE:

SHEET 1 OF 3

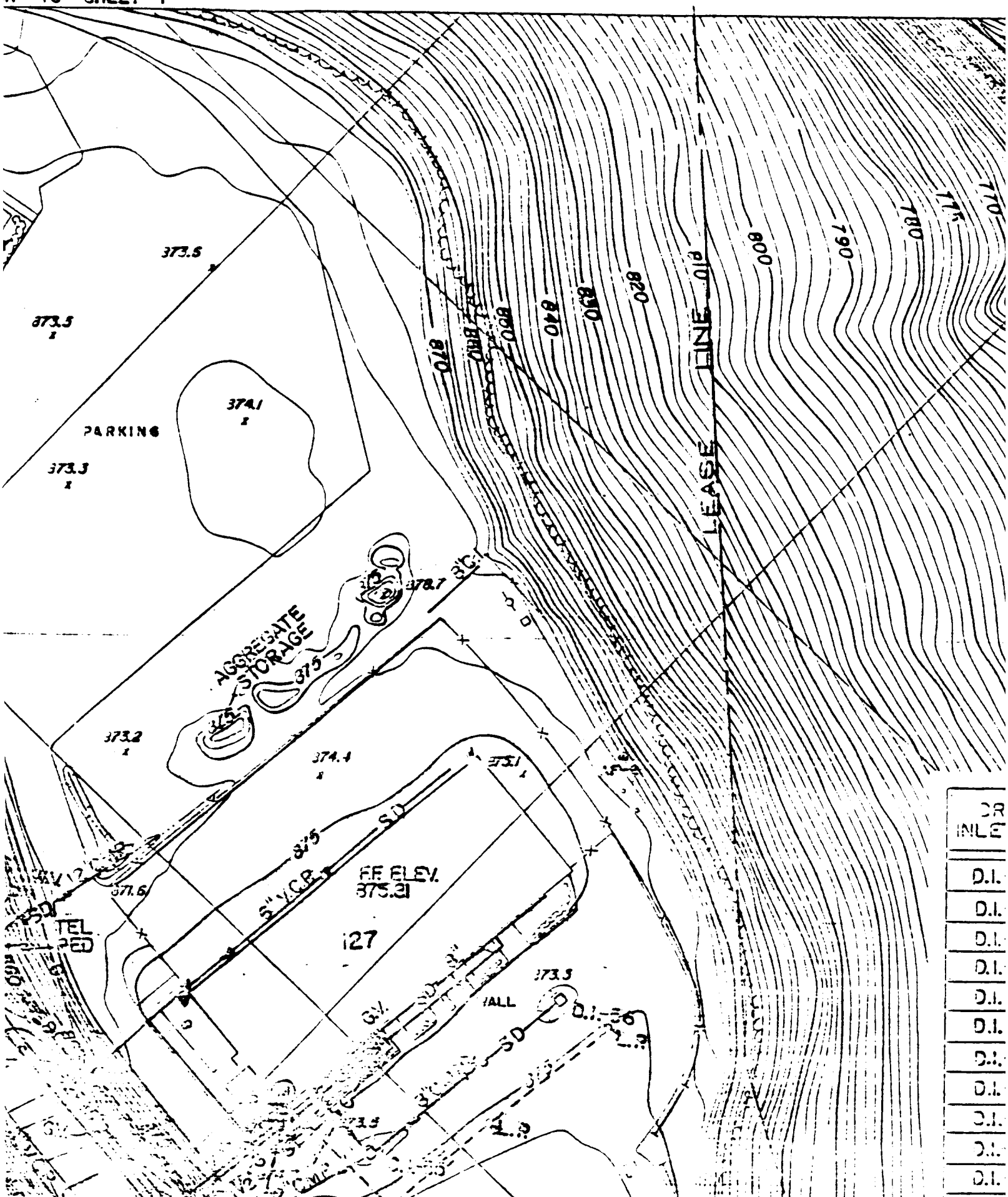
IS NOT APPLICABLE

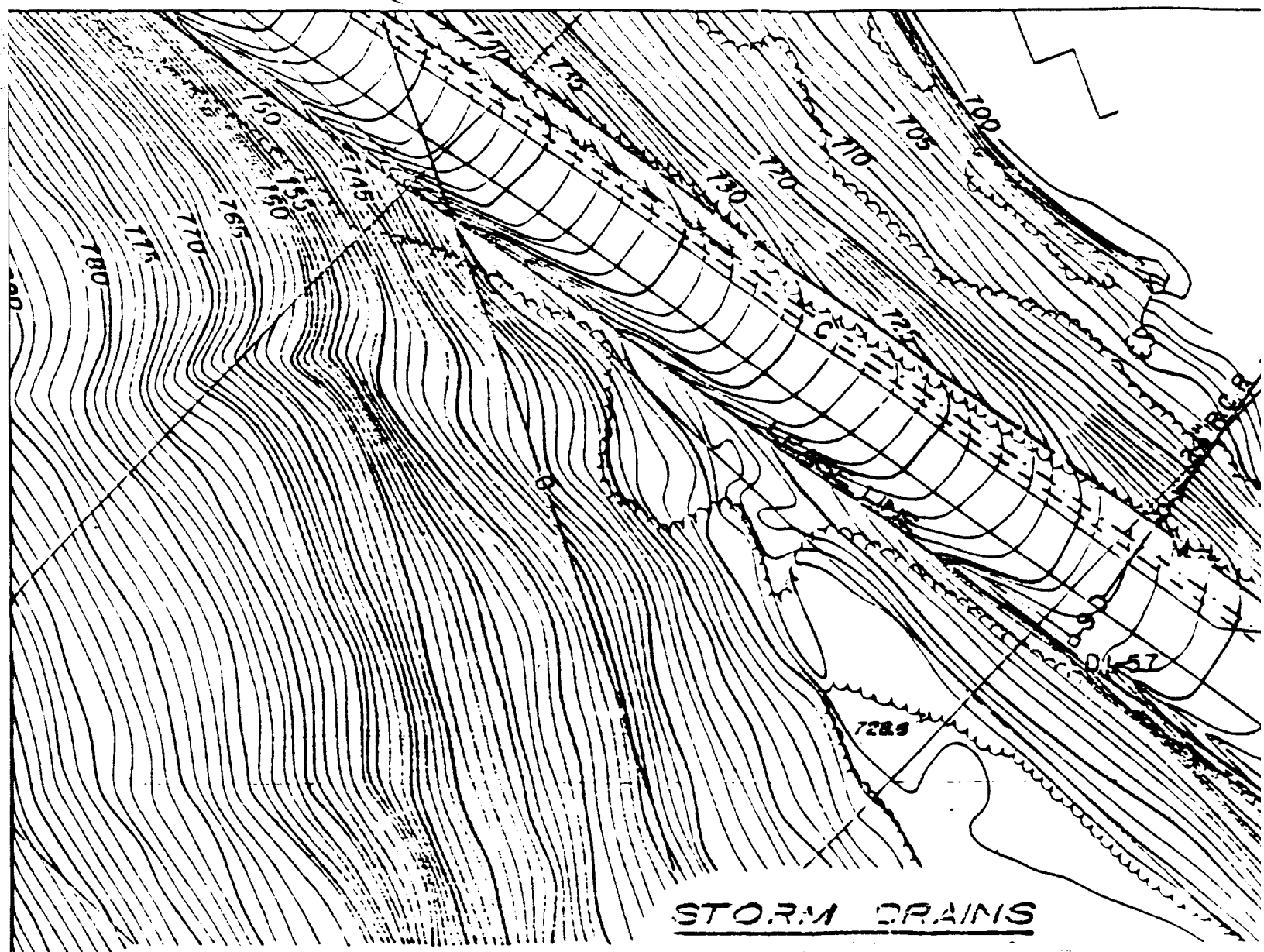

POINT #
NORTHING
EASTING
ELEVATION
DESCRIPTION
1
2
3
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38
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42
43
44
45
501170.576
501069.420
501211.115
501226.468
501287.740
501387.689
501539.554
501427.482
501594.805
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501417.609
501342.228
501460.048
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501584.114
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501241.625
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500535.150
500735.017
500773.720
500796.033
500788.693
500798.049
500821.412
500823.643
500889.850
501089.495
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1830859.282
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1831143.766
1831107.974
1831118.723
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1831128.298
1831116.709
1831116.558
1831101.486
1831088.124
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1831112.121
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1830838.731
1830906.945
1830819.286
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1830886.246
1830883.224
1830857.509
1830859.172
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920.390
858.650
838.500
825.140
824.870
825.430
828.910
827.080
824.530
827.390
824.780
824.770
832.660
833.080
831.330
848.250
828.220
956.770
958.350
948.430
944.630
943.050
964.420
848.530
848.720
848.830
780.890
780.660
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788.350
770.670
813.960
903.860
858.520
895.390
886.630
886.340
894.300
890.860
887.110
899.390
911.080
920.220
REBAR
REBAR
REBAR
WV2-HA01
WV2-HA02
WV2-SE01SW01
WV2-HA07
WV2-HA08
REBAR
WV2-HA05
WV2-SE03
WV2-HA06
WV2-SW03
WV2-SWSE01
WV2-HA04
WV2-SESW04
REBAR
WV2-HA05
REBAR
PK NAIL
REBAR
WV3-HA03
WV3-HA02
WV3-HA01
MONUMENT #21
REBAR
MONUMENT #20
REBAR
REBAR
REBAR
WV1-HA08
WV1-HA07
WV1-HA06
WV1-SW01
REBAR
REBAR
WV1-SE02
WV1-SE01
WV1-HA02
WV1-HA05
WV1-HA01
WV1-HA04
WV1-HA03
WV1-HA09
WV1-HA10
REBAR
E1, 831,000
N 502,000
LEASE LINE


DESCRIPTION
REBAR
REBAR
WV2-HA01
WV2-HA02
WV2-SE01SW01
WV2-HA07
WV2-HA08
REBAR
WV2-HA09
WV2-SE05
WV2-HA06
WV2-SW03
WV2-SWSE01
WV2-HA04
WV2-SESW04
REBAR
WV2-HA05
REBAR
PK NAIL
REBAR
WV3-HA03
WV3-HA02
WV3-HA01
MONUMENT #21
REBAR
MONUMENT #20
REBAR
REBAR
REBAR
WV1-HA08
WV1-HA07
WV1-HA06
WV1-SW01
REBAR
REBAR
WV1-SE02
WV1-SE01
WV1-HA02
WV1-HA05
WV1-HA01
WV1-HA04
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952.753
940.827
954.898
WV2-SW03
WV2-SW06
WV2-SW05
WV2-WW01
WV2-SB01
WV2-SB02
WV4-SB01
WV4-SB02
WV4-SB03
WV1-WW1
WV1-HA12
PK NAIL
WV5-SB04
WV5-SB05
WV5-SB02
WV5-SB01
WV5-SB05
WV3-SB03
WV3-SB02
WV3-SB01
NAIL
WV BACK GROUND
WV BACK GROUND 2
WV BACK GROUND 3
LEASE LINE
123
16
SIGN


3
MATCH TO SHEET 1
EMERGENCY GENERATOR (30KW)
132
F.F. ELEV.
874.00
G.V.
373.5
373.3
PARKING
373.2
371.6
8" PVC
6" PVC
8" CMP
SIGN
123
F.F. ELEV.
64
63
17

H TO SHEET 1


373.5
373.5
374.1
PARKING
373.3
378.7
AGGREGATE STORAGE
375
373.2
374.4
375.1
SD
375
5" V.C.P.
FF ELEV. 375.31
371.6
TEL
ED
127
373.3
WALL
D.I.
SD
373.5
CMP
PROP. BRD
LEASE LINE
810
820
830
840
850
870
770
780
790
800
D.I.
D.I.
D.I.
D.I.
D.I.
D.I.
D.I.
D.I.
D.I.
D.I.



STORM DRAINS

DROP INLET Nº	TOP ELEV.	INVERT ELEV.	DROP INLET Nº	TOP ELEV.	INVERT ELEV.	PIPE Nº
D.I.-1	804.50	803.83	D.I.-33	936.04	925.95	P-1
D.I.-2	923.34	920.34	D.I.-34	933.25	931.05	P-2
D.I.-3	933.20	922.20	D.I.-35	940.49	933.20	P-3
D.I.-4	931.58	922.18	D.I.-36	340.76	336.49	
D.I.-5	932.31	923.31	D.I.-37	942.56	938.85	P-3
D.I.-6	935.97	931.67	D.I.-38	944.31	940.71	
D.I.-7	937.07	930.37	D.I.-39	944.73	942.11	
D.I.-8	937.24	933.24	D.I.-40	942.71	935.32	
D.I.-9	936.30	931.90	D.I.-41	942.67	935.27	
D.I.-10	937.02	932.32	D.I.-42	944.33	939.31	
D.I.-11	939.13	934.63	D.I.-43	944.65	941.10	P-11

ELECTRICAL TRANSFORMERS

TRANSFORMER Nº	VOLTS	PHASE	K.V.A.
TR. - 1	208	3	225 t
TR. - 2	208	3	225 t
TR. - 3	208	3	750 t
TR. - 4	208	3	750 t
TR. - 5	208	3	300 t
TR. - 6	208	3	300 t
TR. - 7	208	3	10 ea.
TR. - 8	240	1	10
TR. - 9	240	3	25 ea.
TR. - 10	240	1	25
TR. - 11	208	3	5 ea.
TR. - 12	NA	NA	NA

NA - NOT AVAILABLE

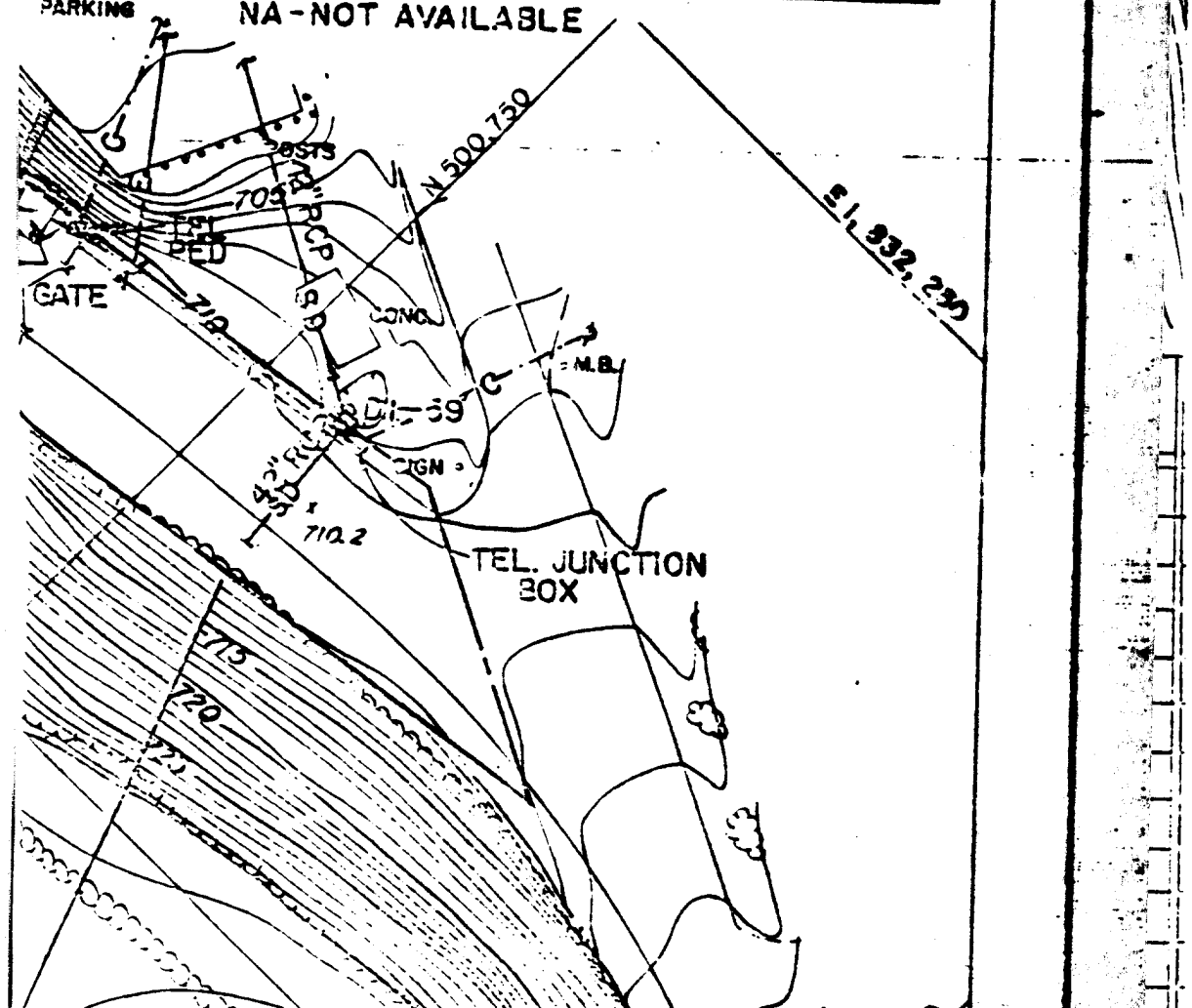
PIPE Nº	INLET INV. ELEV.	CUTLET INV. ELEV.
P - 1	803.83	800.53
P - 2	843.70	838.30
P - 3	336.30	832.10
P - 5	369.57	366.31
P - 11	920.34	395.31

7

ELECTRICAL TRANSFORMERS

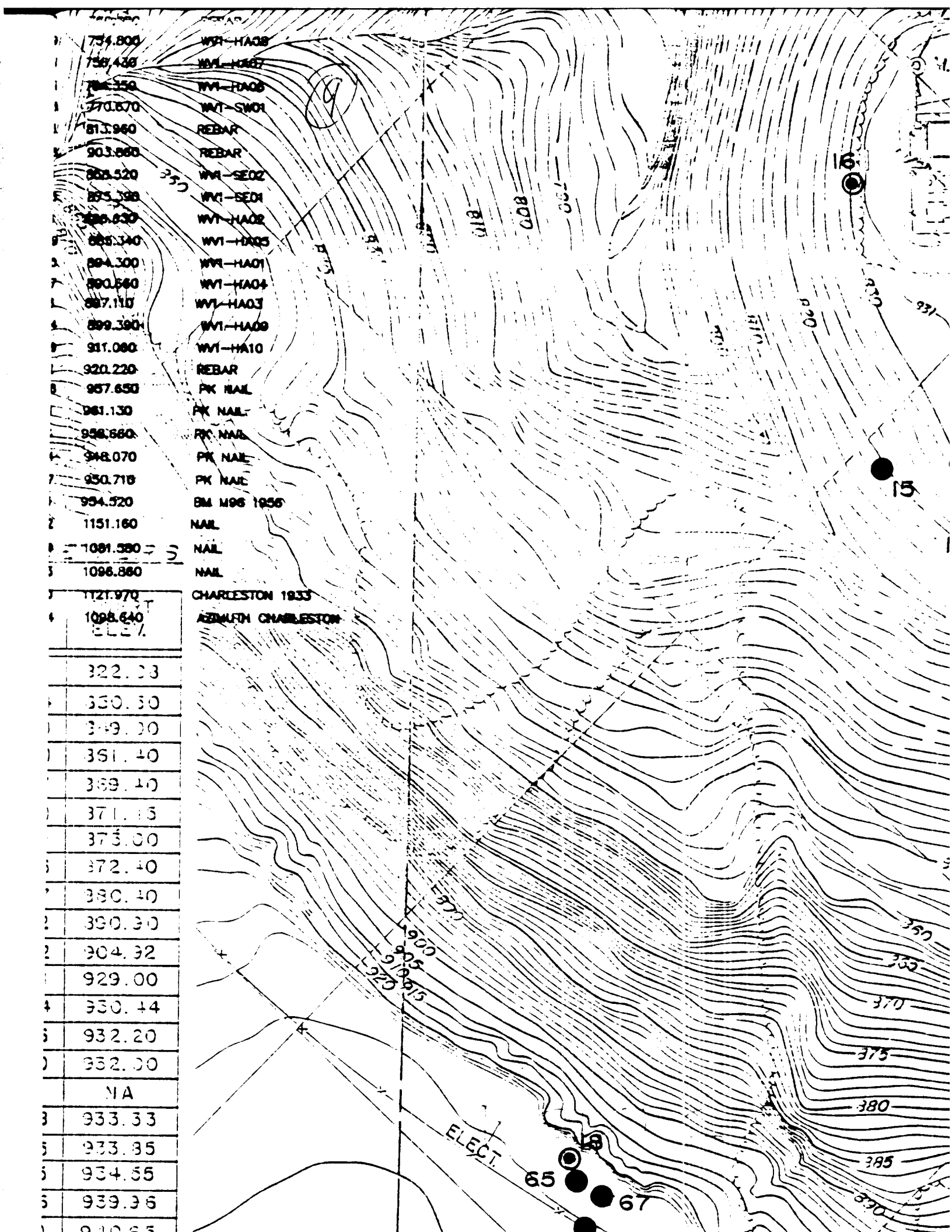
TRANSFORMER Nº	VOLTS	PHASE	K.V.A.
TR. - 1	208	3	225 t
TR. - 2	208	3	225 t
TR. - 3	208	3	750 t
TR. - 4	208	3	750 t
TR. - 5	208	3	300 t
TR. - 6	208	3	300 t
TR. - 7	208	3	10 ea.
TR. - 8	240	1	10
TR. - 9	240	3	25 ea.
TR. - 10	240	1	25
TR. - 11	208	3	5 ea.
TR. - 12	NA	NA	NA

NA - NOT AVAILABLE



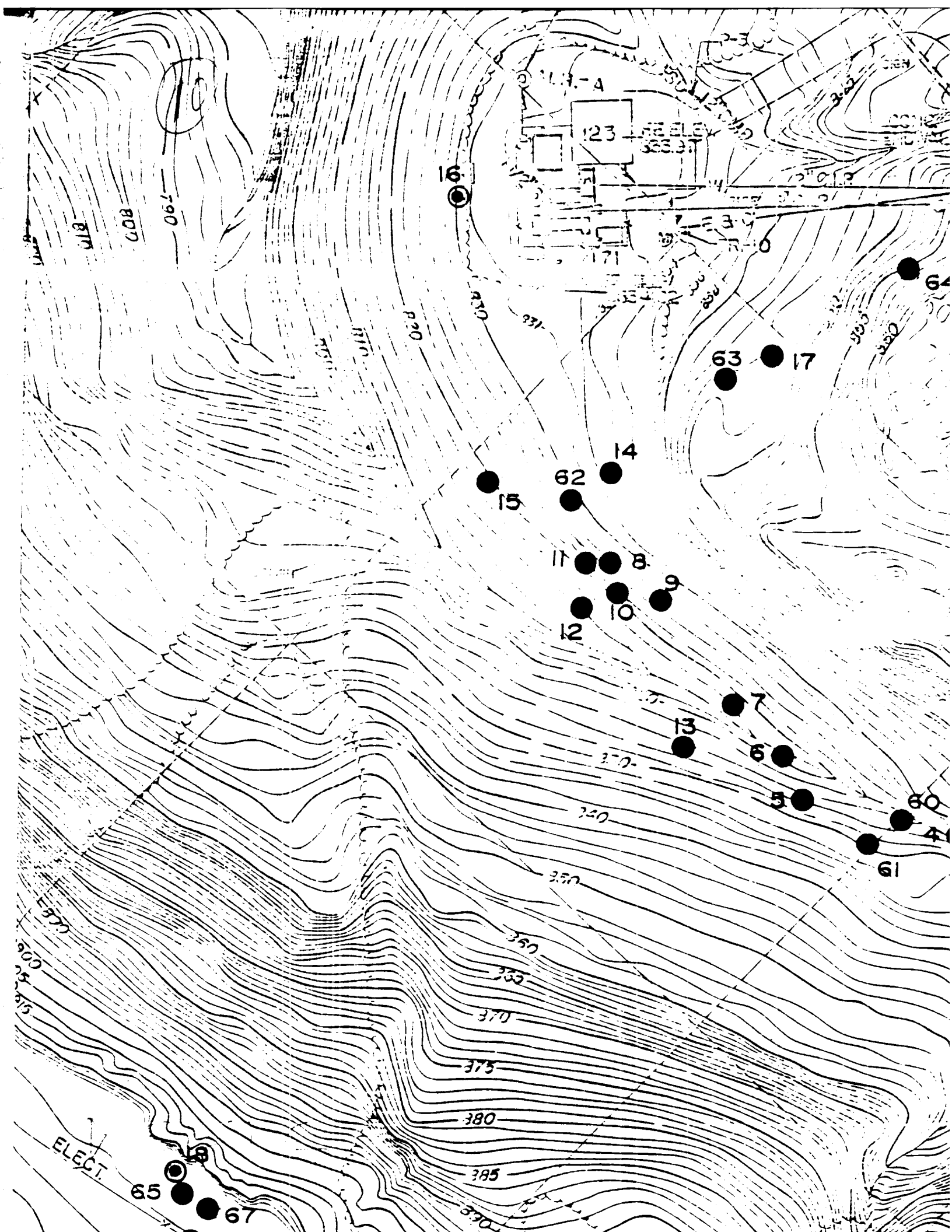
29	500444.787	1831346.980	769.810	REBAR
30	500473.425	1830300.990	754.800	WV1-HA08
31	500483.258	1831254.833	758.420	WV1-HA07
32	500557.398	1831161.435	766.350	WV1-RA06
33	500557.886	1831079.228	770.670	WV1-SW01
34	500448.709	1831120.745	813.960	REBAR
35	500835.150	1830875.078	903.840	REBAR
36	500735.017	1830836.725	868.520	WV1-SE02
37	500773.720	1830908.945	895.338	WV1-SE01
38	500819.820	1830919.286	926.630	WV1-HA02
39	500798.033	1830898.869	888.340	WV1-HA05
40	500799.693	1830872.180	894.300	WV1-HA01
41	500798.049	1830877.957	890.840	WV1-HA04
42	500821.442	1830886.246	887.110	WV1-HA03
43	500823.643	1830863.224	899.390	WV1-HA09
44	500899.850	1830857.509	911.080	WV1-HA10
45	501090.498	1830859.172	920.230	REBAR
46	499393.838	1830848.978	957.650	PK NAIL
47	499518.568	1828874.088	961.130	PK NAIL
48	499425.110	1828846.821	958.660	PK NAIL
49	499580.938	1828883.324	948.070	PK NAIL
50	499597.486	1828816.397	950.710	PK NAIL
51	499503.887	1828891.185	954.520	BM M96 1956
52	494735.042	1828262.182	1151.160	NAIL
53	493087.792	1824990.169	1091.580	NAIL
54	492852.916	1825275.203	1096.860	NAIL
55	492528.120	1825457.890	1121.970	CHARLESTON 1933
56	492425.457	1825398.924	1098.640	AZIMUTH CHARLESTON

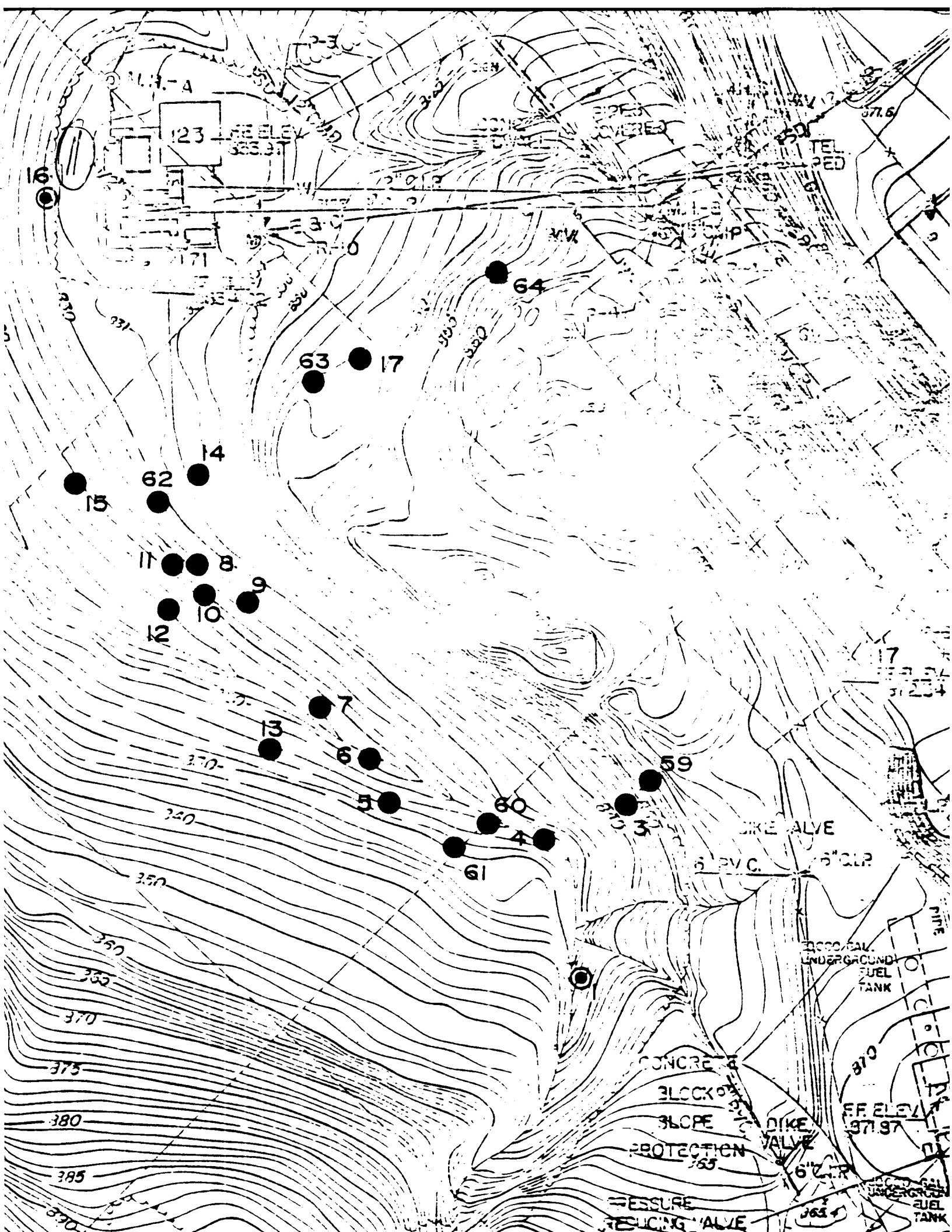
M.H.-A	331.33	322.33
M.H.-B	353.74	330.30
M.H.-C	353.30	349.30
M.H.-D	359.20	351.40
M.H.-E	375.27	369.40
M.H.-F	376.30	371.15
M.H.-G	377.30	373.00
M.H.-H	373.33	372.40
M.H.-I	336.27	330.40
M.H.-J	395.52	390.30
M.H.-K	909.52	904.32
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44
M.H.-N	939.56	932.20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.33	933.33
M.H.-R	941.35	933.35
M.H.-S	942.35	934.55
M.H.-T	946.26	939.96

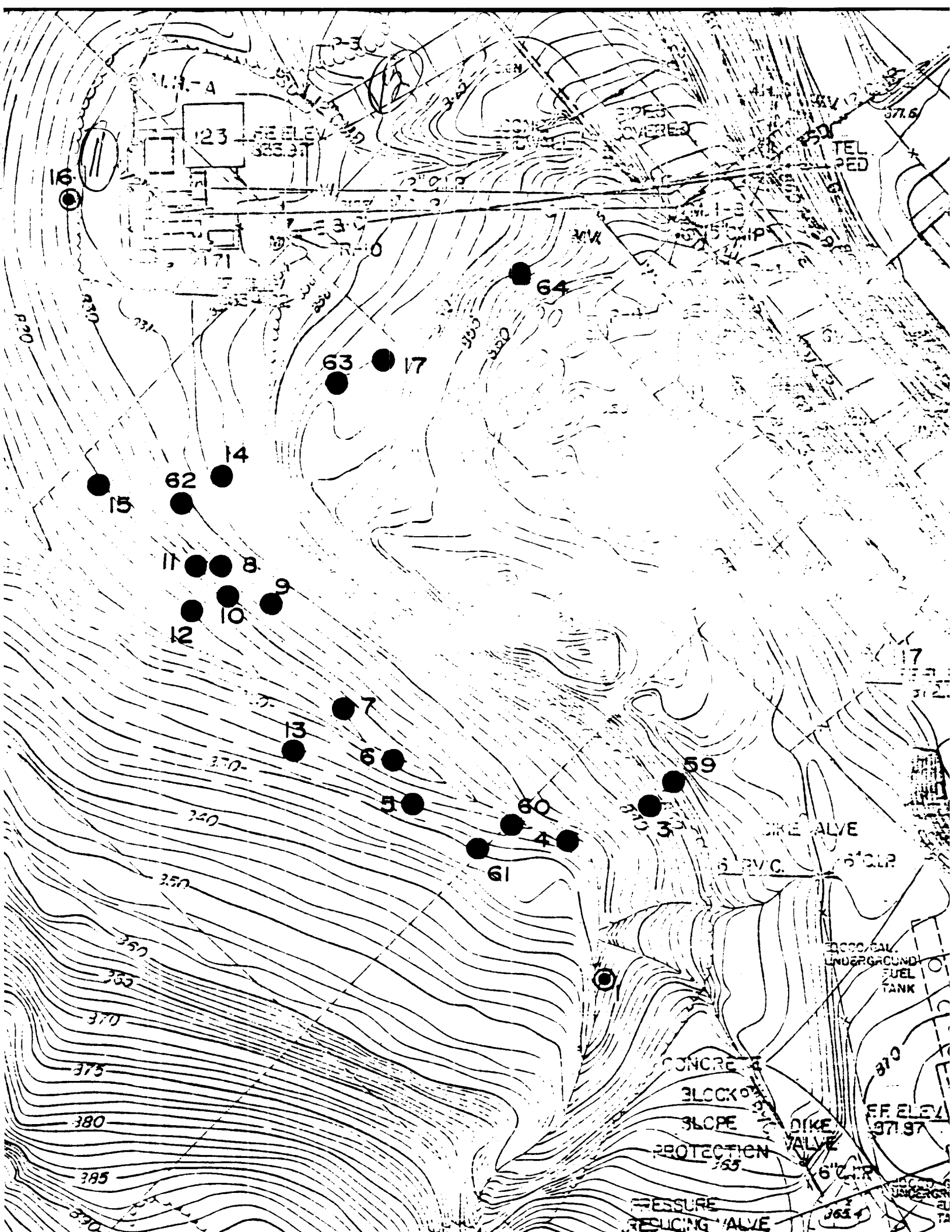


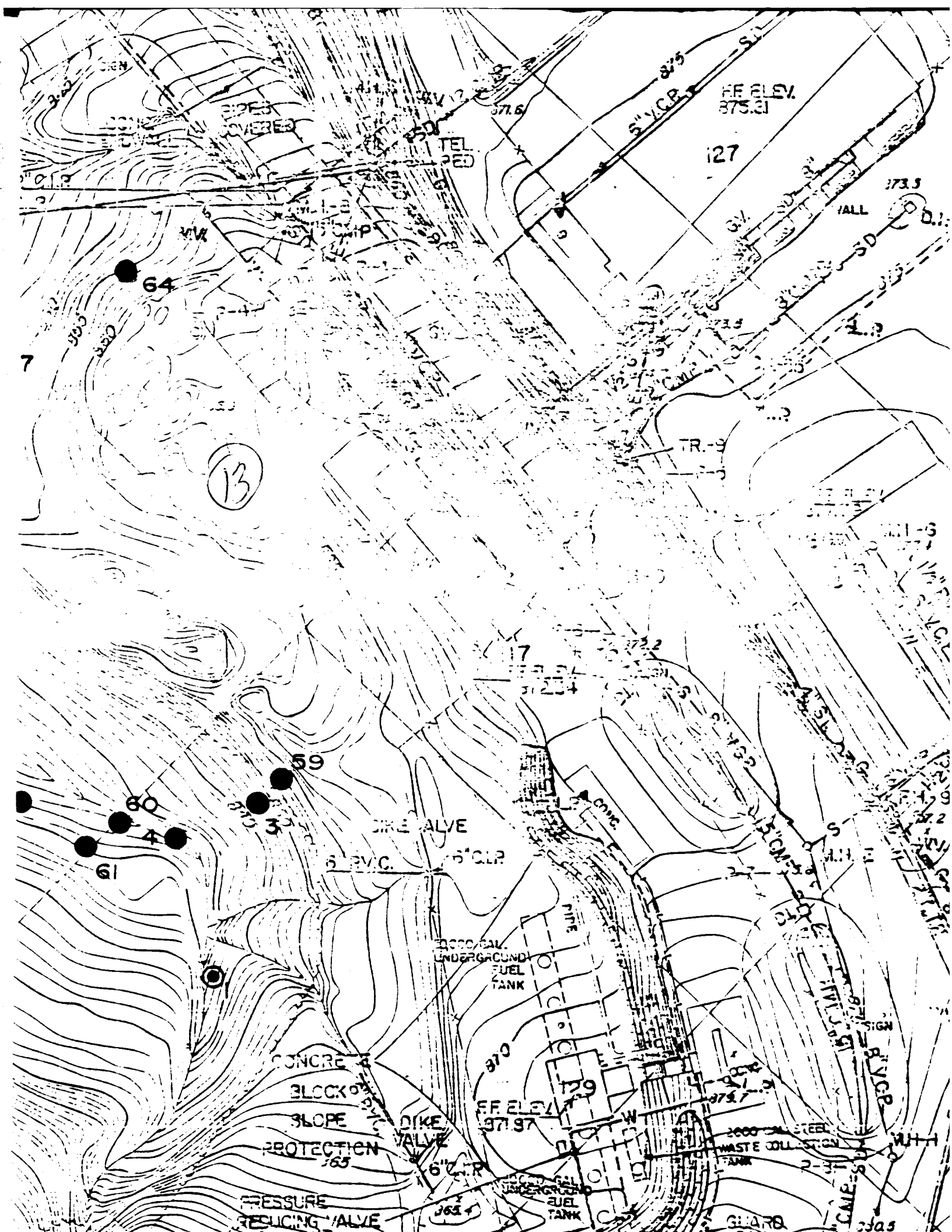
754.800	WVI-HA08
756.430	WVI-HA07
786.350	WVI-HA06
770.670	WVI-SW01
813.960	REBAR
903.660	REBAR
868.520	WVI-SE02
875.390	WVI-SE01
886.630	WVI-HA02
885.340	WVI-HA05
894.300	WVI-HA01
890.560	WVI-HA04
887.110	WVI-HA03
899.390	WVI-HA09
911.080	WVI-HA10
920.220	REBAR
957.650	PK NAIL
961.130	PK NAIL
956.660	PK NAIL
948.070	PK NAIL
950.710	PK NAIL
954.520	BM M96 1956
1151.160	NAIL
1081.580	NAIL
1096.860	NAIL
1121.970	CHARLESTON 1933
1098.640	AZIMUTH CHARLESTON

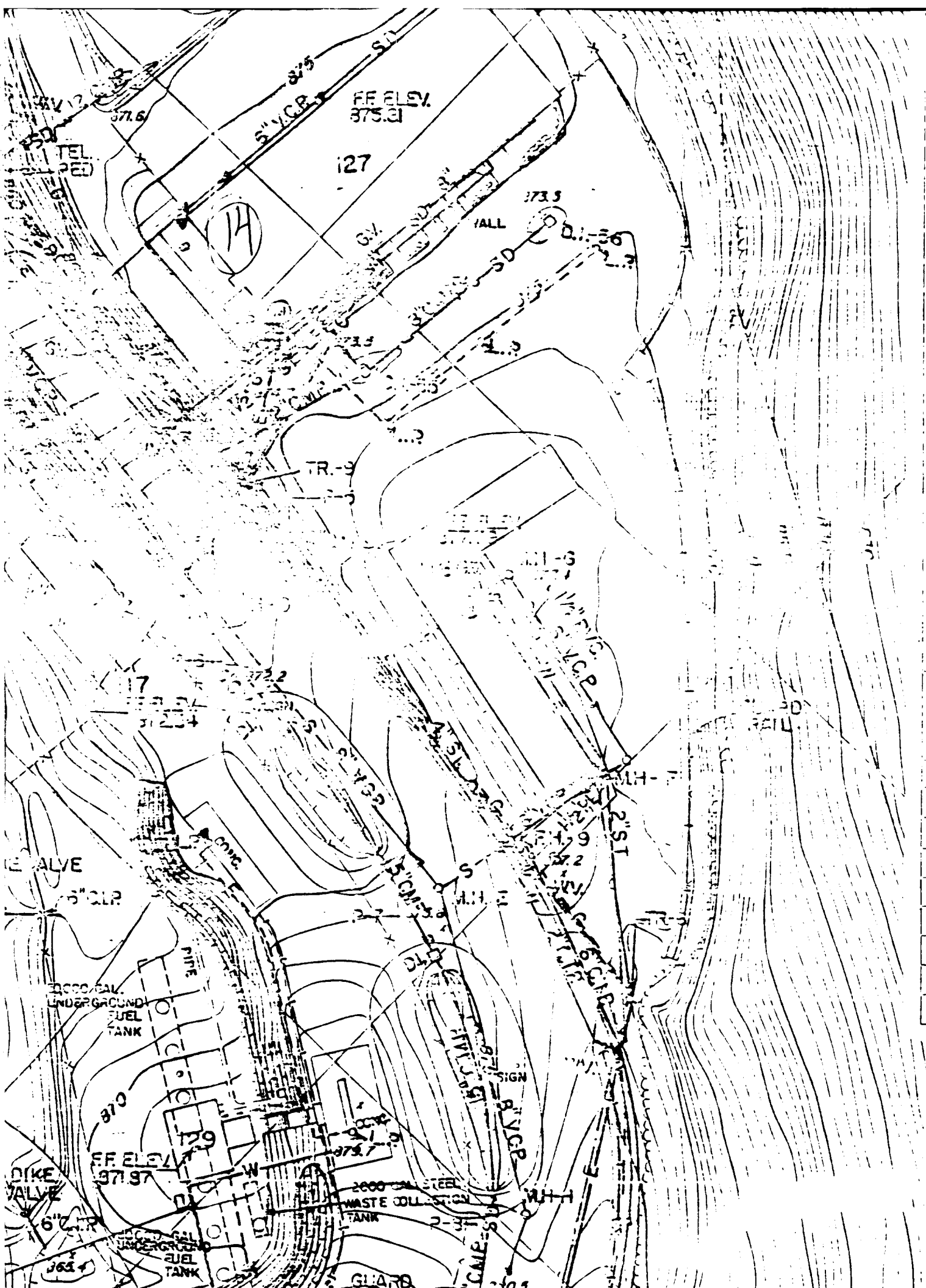
ELEV.
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349.30
351.40
368.40
371.13
373.00
372.40
380.40
390.30
904.32
929.00
930.44
932.20
932.00
NA
933.33
933.35
934.55
939.36
940.63

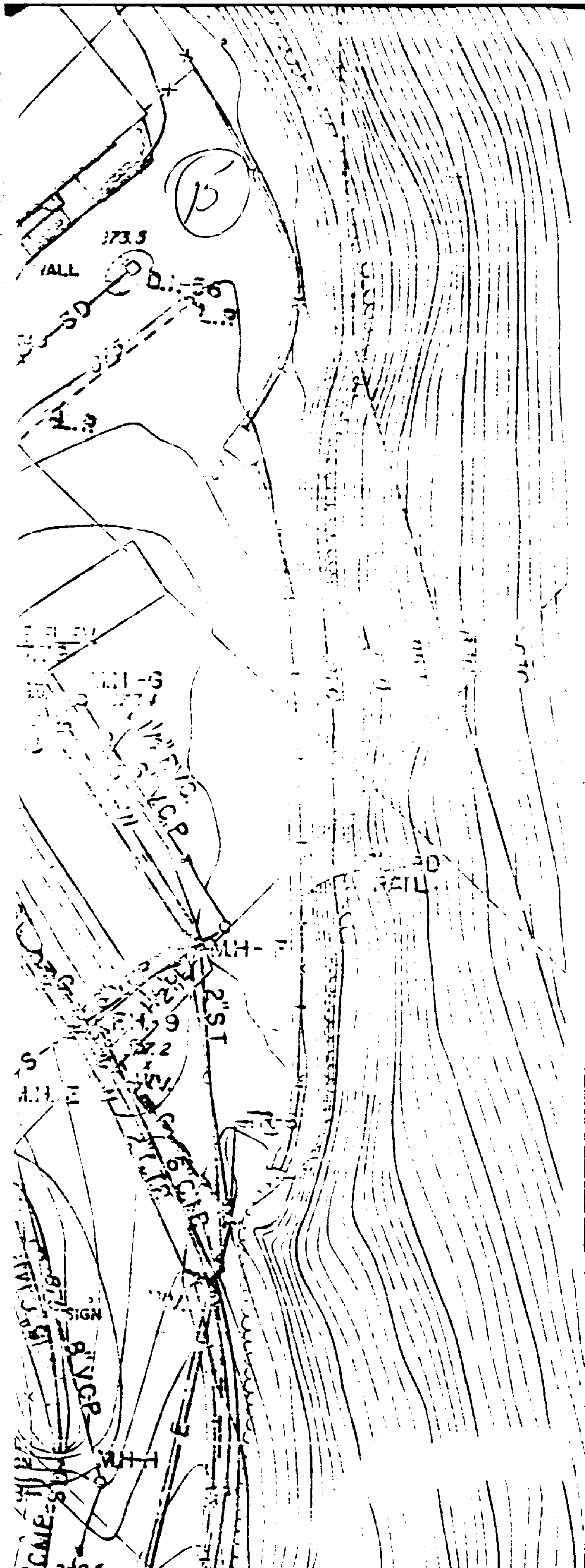

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67
ELECT.
370
375
380
385
390


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59
3
123
FF ELEV
383.3
FF ELEV
377.97
CONCRETE
BLOCK
SLOPE
PROTECTION
DIKE VALVE
6" PVC
6" CLR
UNDERGROUND
FUEL
TANK
PRESSURE
REDUCING VALVE
370
375
380
385
390
350
355
360
365
310

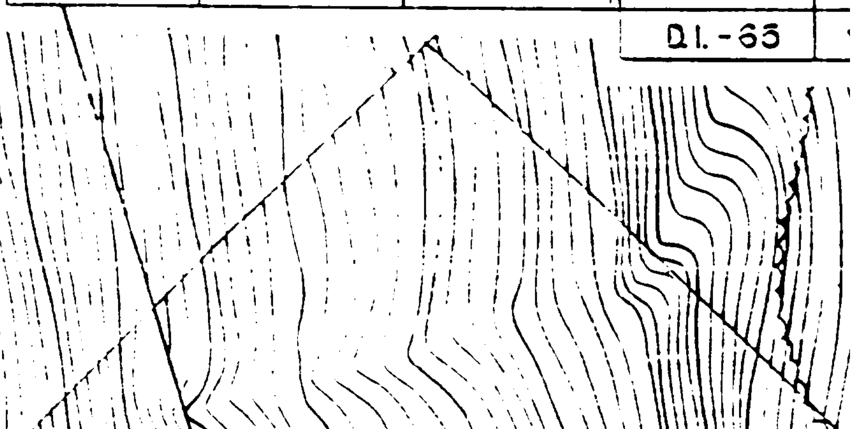

16
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123
TEL
PED
CONCRE
BLOCK
SLOPE
PROTECTION
DIKE
VALVE
6"C.I.P.
F.F. ELEV
371.97
PRESSURE
REDUCING VALVE
UNDERGROUND
FUEL
TANK


FF ELEV.
375.21
127
64
13
59
60
4
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DIKE VALVE
6" CLP
6" SVC.
CONCRETE
BLOCK
SLOPE
PROTECTION
DIKE
VALVE
6" CLP
PRESSURE
REDUCING VALVE
FF ELEV.
371.97
129
GUARD


FF ELEV.
375.31
127
14
5"V.C.P.
TEL.
PED
TR.-9
17
129
FF ELEV.
377.97
2"ST
S"CMP
RCP
SIGN
TANK
GUARD
INLET
D.I.-



DROP INLET №	TOP ELEV.	INVERT ELEV.	DROP INLET №
D.I.-	804.50	303.33	D.I.-33
D.I.-2	923.34	920.34	D.I.-34
D.I.-3	933.20	922.20	D.I.-35
D.I.-4	931.68	922.18	D.I.-36
D.I.-5	932.31	928.31	D.I.-37
D.I.-6	935.37	931.67	D.I.-38
D.I.-7	937.07	930.37	D.I.-39
D.I.-8	937.24	933.24	D.I.-40
D.I.-9	936.30	931.30	D.I.-41
D.I.-10	[illegible]	[illegible]	D.I.-42
D.I.-11	[illegible]	934.33	D.I.-43
D.I.-12	[illegible]	[illegible]	D.I.-44
D.I.-13	[illegible]	[illegible]	D.I.-45
D.I.-14	[illegible]	[illegible]	D.I.-46
D.I.-15	[illegible]	[illegible]	D.I.-47
D.I.-16	[illegible]	[illegible]	D.I.-48
D.I.-17	949.36	947.46	D.I.-49
D.I.-18	[illegible]	[illegible]	D.I.-50
D.I.-19	[illegible]	[illegible]	D.I.-51
D.I.-20	949.73	947.04	D.I.-52
D.I.-21	950.31	948.11	D.I.-53
D.I.-22	951.43	949.61	D.I.-54
D.I.-23	952.93	951.43	D.I.-55
D.I.-24	947.23	942.45	D.I.-56
D.I.-25	948.36	946.46	D.I.-57
D.I.-26	933.59	923.86	D.I.-58
D.I.-27	927.36	925.14	D.I.-59
D.I.-28	939.70	937.03	D.I.-60
D.I.-29	942.17	936.34	D.I.-61
D.I.-30	940.22	933.20	D.I.-62
D.I.-31	940.14	938.14	D.I.-63
D.I.-32	940.37	938.19	D.I.-64
			D.I.-65

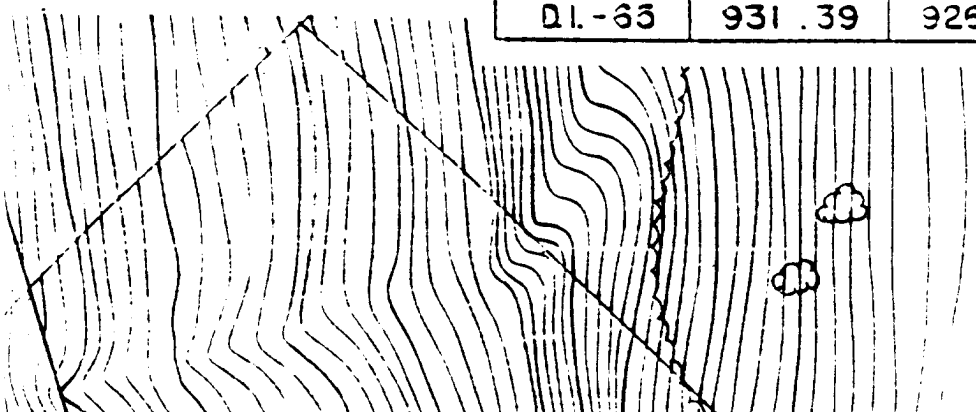


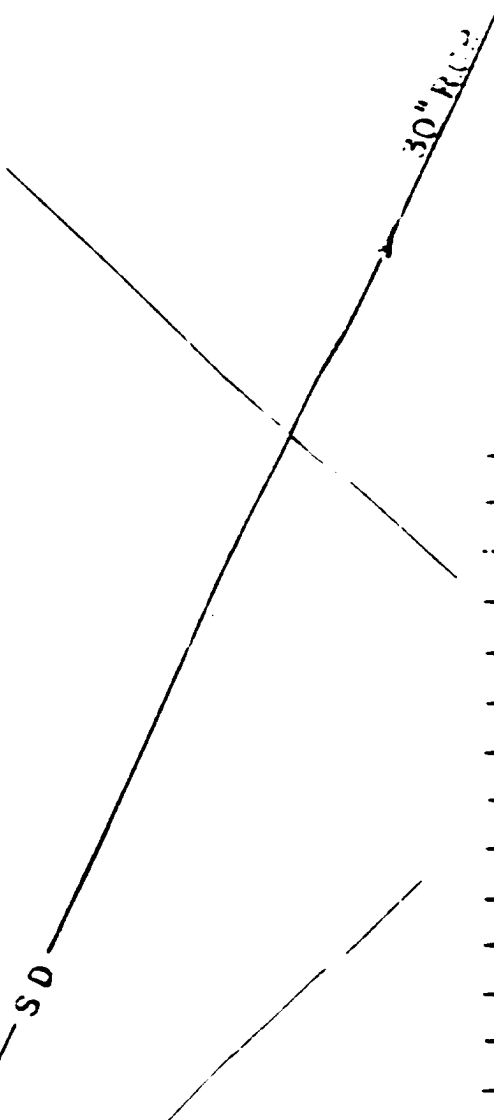
P Nº	TOP ELEV.	INVERT ELEV.
1	804.50	803.83
2	923.34	920.34
3	933.20	922.20
4	931.68	922.18
5	932.31	928.31
6	935.37	931.67
7	937.07	930.67
8	937.24	933.24
9	936.30	931.90
10	937.02	932.92
11	939.13	934.63
12	940.03	933.53
13	941.42	938.17
14	943.32	943.02
15	943.72	941.62
16	940.40	938.09
17	949.36	947.46
18	944.34	941.84
19	944.21	940.11
20	949.73	947.04
21	950.81	948.11
22	951.43	949.61
23	952.93	951.43
24	947.23	942.45
25	948.56	946.46
26	933.59	923.86
27	927.56	925.14
28	959.70	957.03
29	942.17	936.34
30	940.22	933.20
31	940.14	938.14
32	940.37	938.19

DROP INLET Nº	TOP ELEV.	INVERT ELEV.
D.I.-33	936.04	925.95
D.I.-34	938.25	931.05
D.I.-35	940.49	933.20
D.I.-36	940.76	936.49
D.I.-37	942.56	938.85
D.I.-38	944.31	940.71
D.I.-39	944.73	942.11
D.I.-40	942.71	935.32
D.I.-41	942.67	935.27
D.I.-42	944.33	939.91
D.I.-43	944.65	941.10
D.I.-44	944.41	940.51
D.I.-45	943.14	941.74
D.I.-46	945.49	941.84
D.I.-47	947.79	943.84
D.I.-48	951.16	946.06
D.I.-49	952.76	949.11
D.I.-50	952.74	950.07
D.I.-51	956.92	952.72
D.I.-52	957.27	954.77
D.I.-53	955.71	954.21
D.I.-54	955.71	954.38
D.I.-55	973.17	969.17
D.I.-56	973.21	970.79
D.I.-57	717.11	713.40
D.I.-58	699.97	698.16
D.I.-59	705.39	702.49
D.I.-60	NA	NA
D.I.-61	942.08	939.41
D.I.-62	943.56	943.23
D.I.-63	954.40	952.22
D.I.-64	953.93	952.43
D.I.-65	931.39	926.39

PIPE Nº	INLET INV. ELEV.	CUT INV.
P-1	803.83	800
P-2	843.70	838
P-3	836.50	832
P-5	869.57	864
P-11	920.34	895
P-12	938.17	937

EX - NOT AVAILABLE

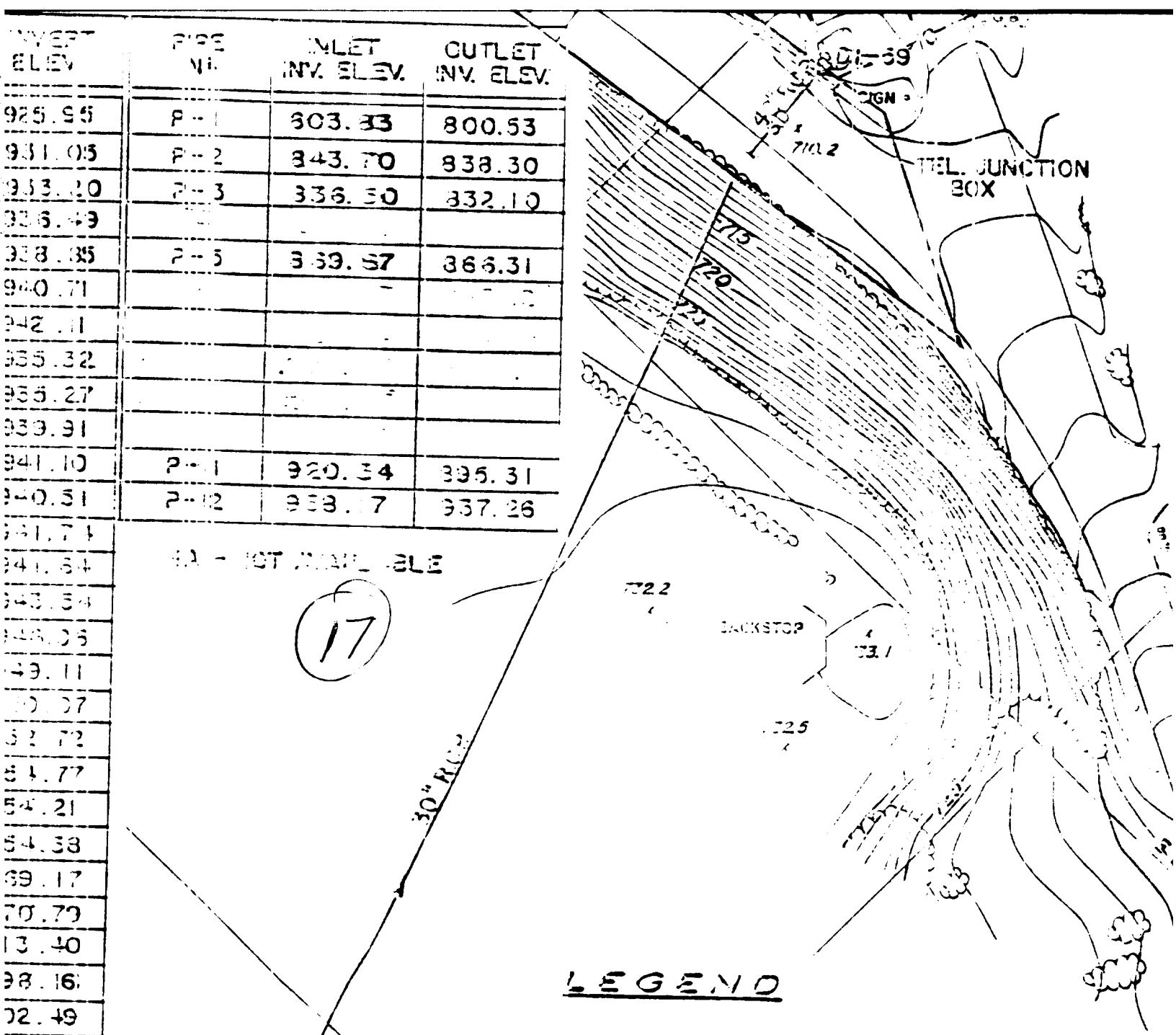




INVERT ELEV	PIPE NO.	INLET INV. ELEV.	OUTLET INV. ELEV.
925.95	P-1	803.83	800.53
931.03	P-2	843.70	838.30
933.10	P-3	836.50	832.10
936.49			
938.85	P-5	869.57	866.31
940.71			
942.11			
935.32			
935.27			
939.91			
941.10	P-1	920.34	895.31
940.51	P-2	938.7	937.26
941.74			
941.64			
943.54			
945.06			
949.11			
950.07			
952.72			
954.77			
954.21			
954.38			
959.17			
970.79			
973.40			
998.16			
902.49			
N.A			
959.41			
943.23			
942.22			
962.43			
965.39			

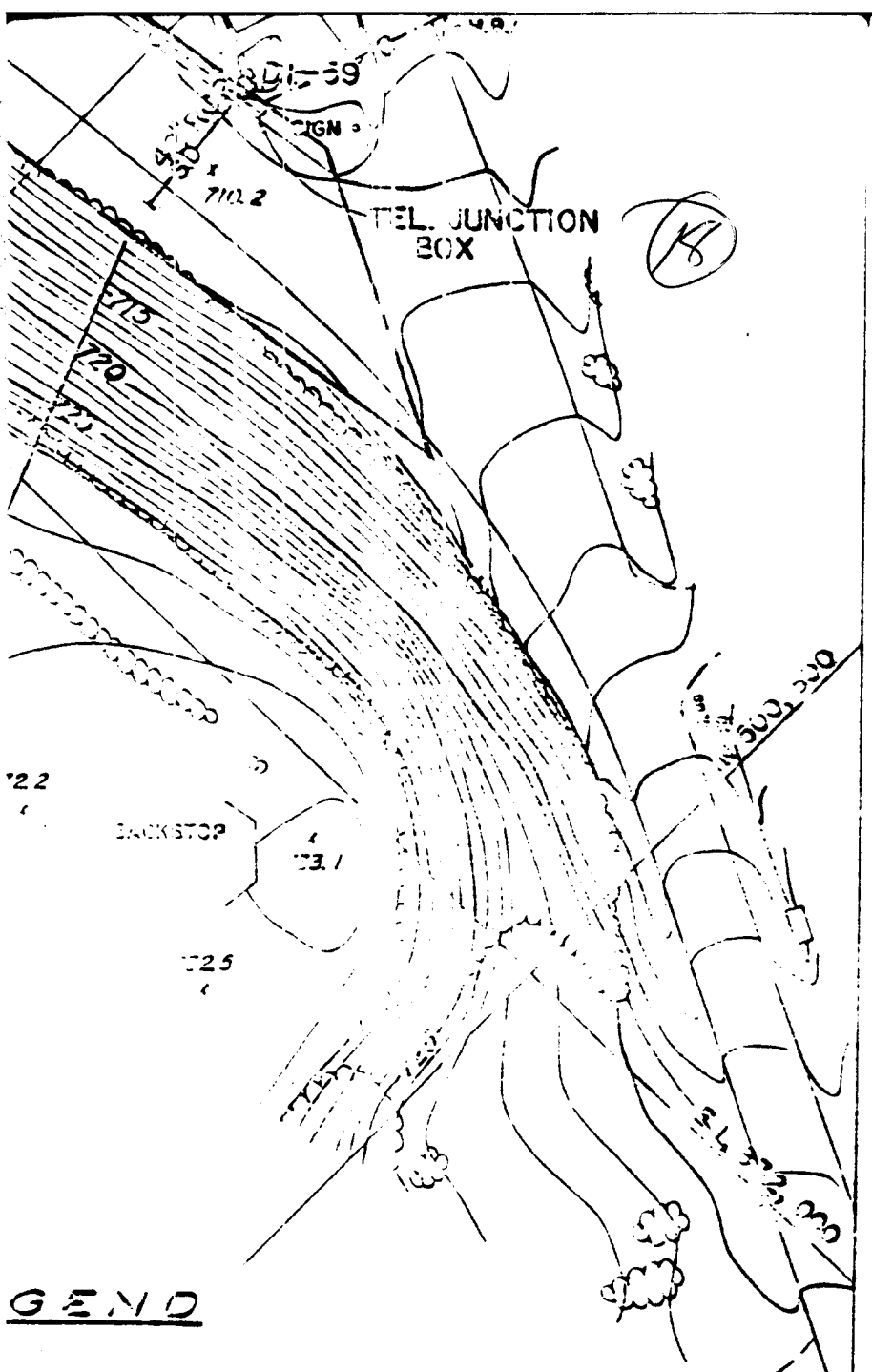
N.A - NOT AVAILABLE

17



LEGEND

--C--	COMMUNICATION (UNDERGROUND)
—C—	COMMUNICATION (ABOVE GROUND)
--C--	COMMUNICATION (LEASED UNDERGROUND)
—C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWER
—SD—	STORM DRAIN
--E--	ELECTRICAL (UNDERGROUND)
—E—	ELECTRICAL (ABOVE GROUND)
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL



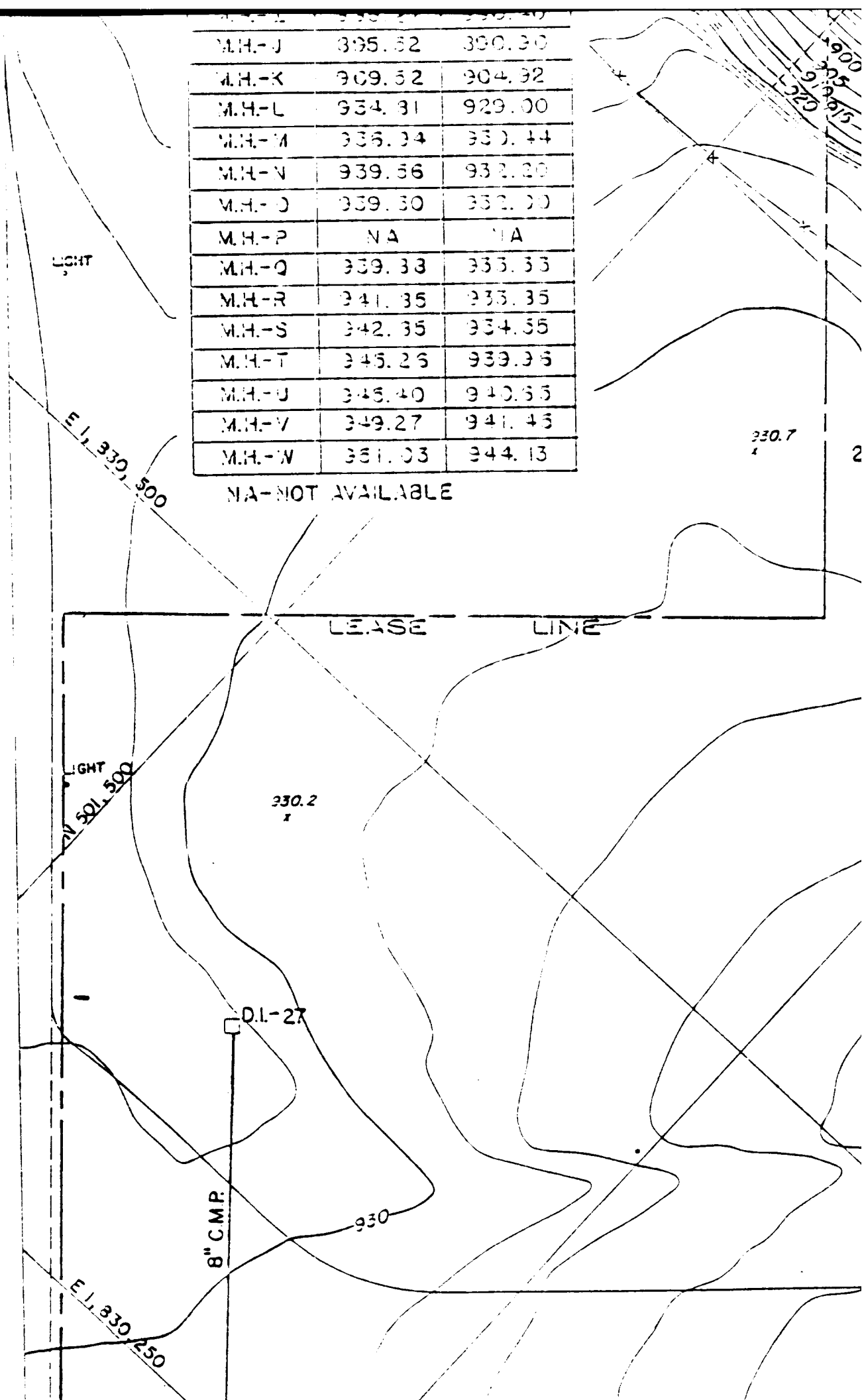
GEND

:MMUNICATION (UNDERGROUND)
:MMUNICATION (ABOVE GROUND)
:MMUNICATION (LEASED UNDERGROUND)
:MMUNICATION (LEASED ABOVE GROUND)
ANITARY SEWER
'ORM DRAIN
ECTRICAL (UNDERGROUND)
.ECTRICAL (ABOVE GROUND)
:ATING
.S
RFIELD LIGHTING
ATER
RE ALARM
QUID FUEL

(19)

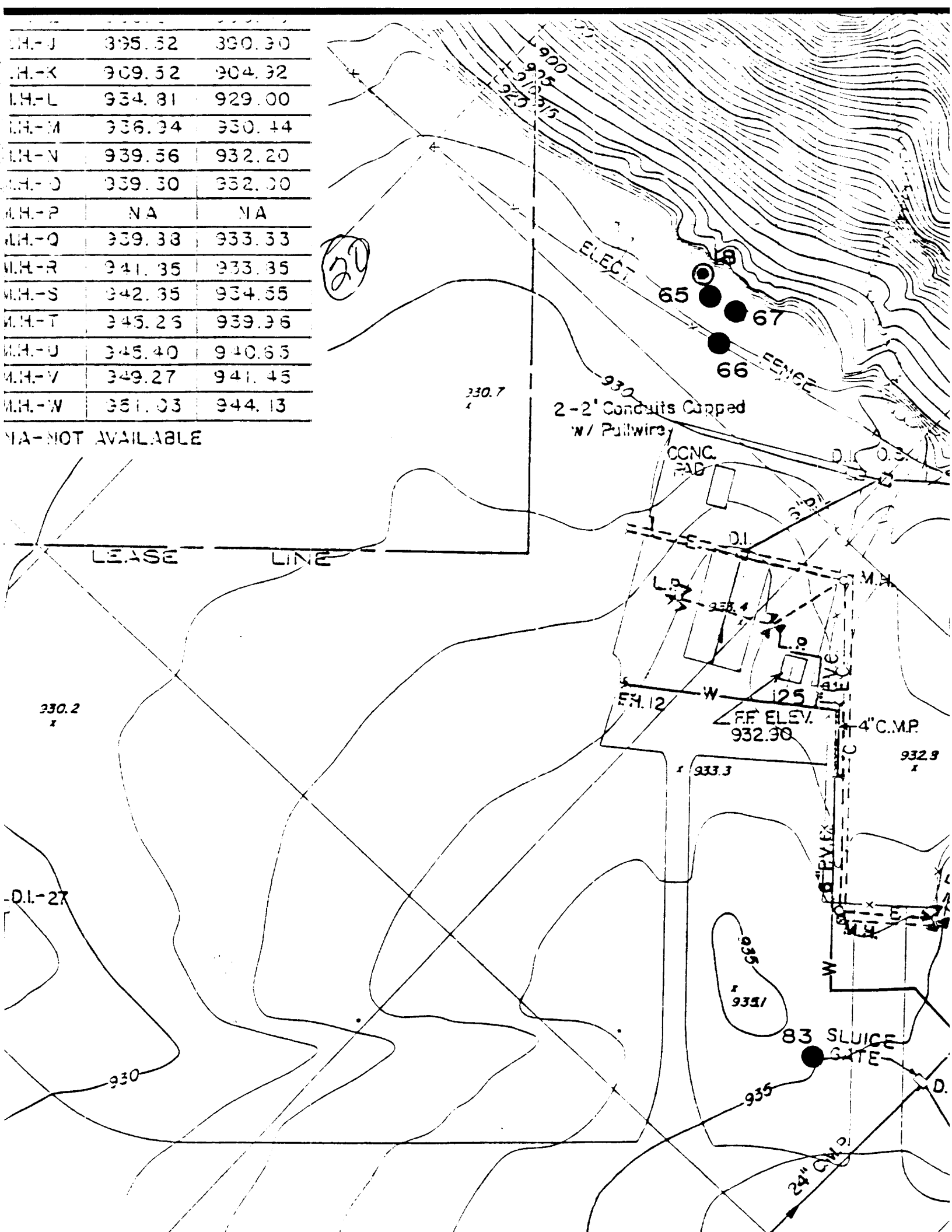
M.H.-J	335.52	330.30
M.H.-K	909.52	904.32
M.H.-L	934.31	929.00
M.H.-M	936.34	931.44
M.H.-N	939.56	934.20
M.H.-O	939.30	934.00
M.H.-P	NA	NA
M.H.-Q	939.33	933.33
M.H.-R	941.35	936.35
M.H.-S	942.35	937.55
M.H.-T	945.26	939.96
M.H.-U	945.40	940.65
M.H.-V	949.27	941.46
M.H.-W	951.03	944.13

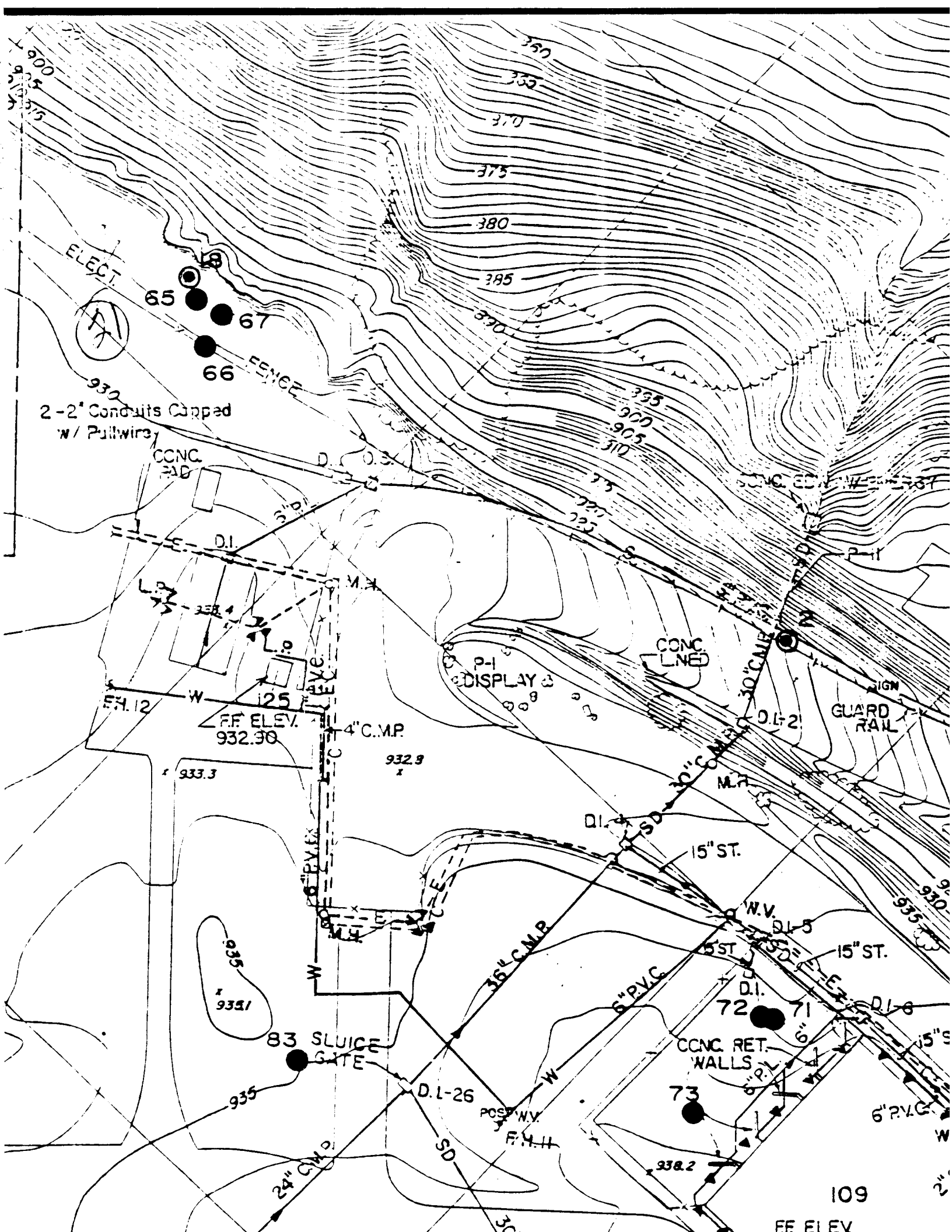
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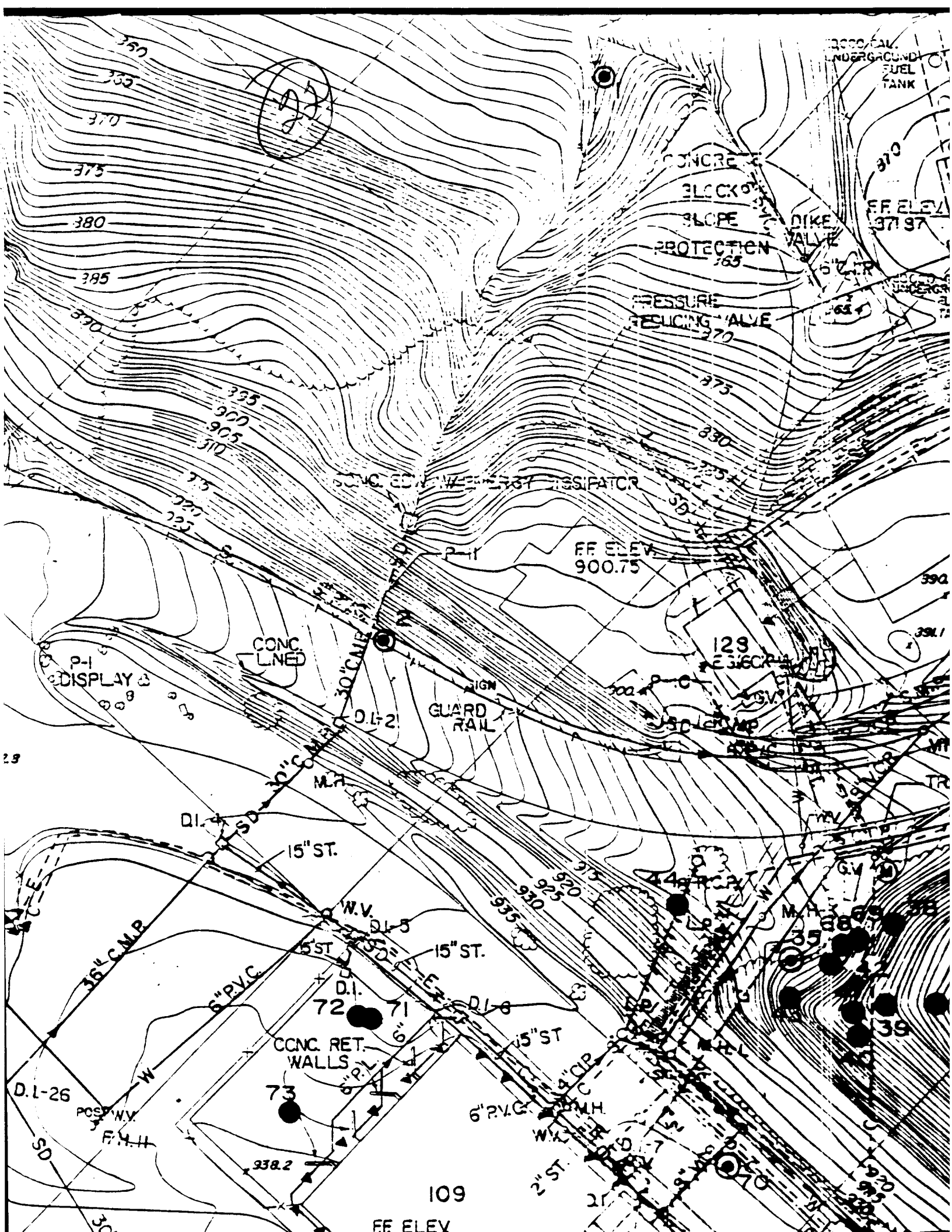


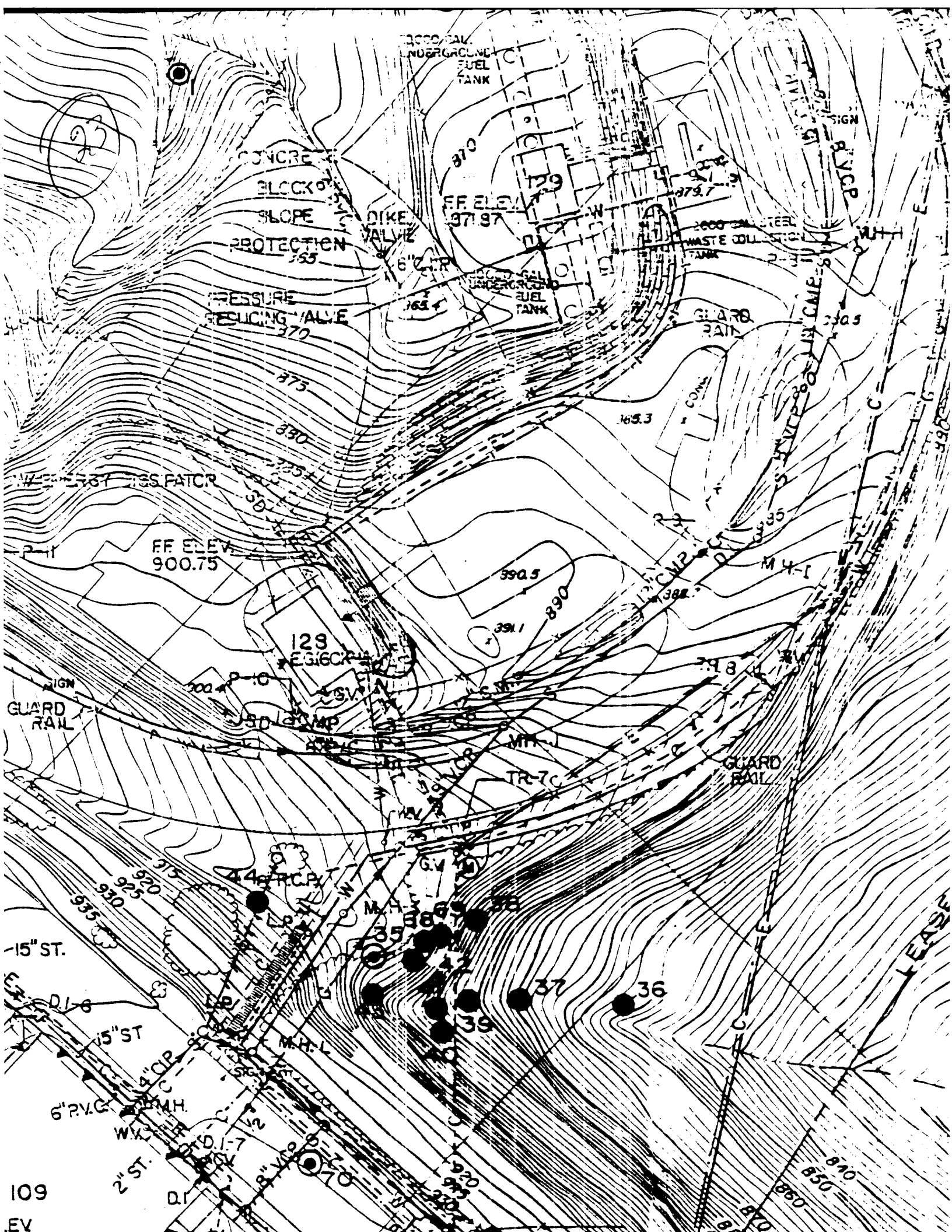
M.H.-J	395.52	390.30
M.H.-K	909.52	904.32
M.H.-L	934.81	929.00
M.H.-M	936.94	930.44
M.H.-N	939.56	932.20
M.H.-O	939.30	932.00
M.H.-P	NA	NA
M.H.-Q	939.38	933.33
M.H.-R	941.35	933.35
M.H.-S	942.35	934.55
M.H.-T	945.26	939.36
M.H.-U	945.40	940.65
M.H.-V	949.27	941.45
M.H.-W	951.03	944.13

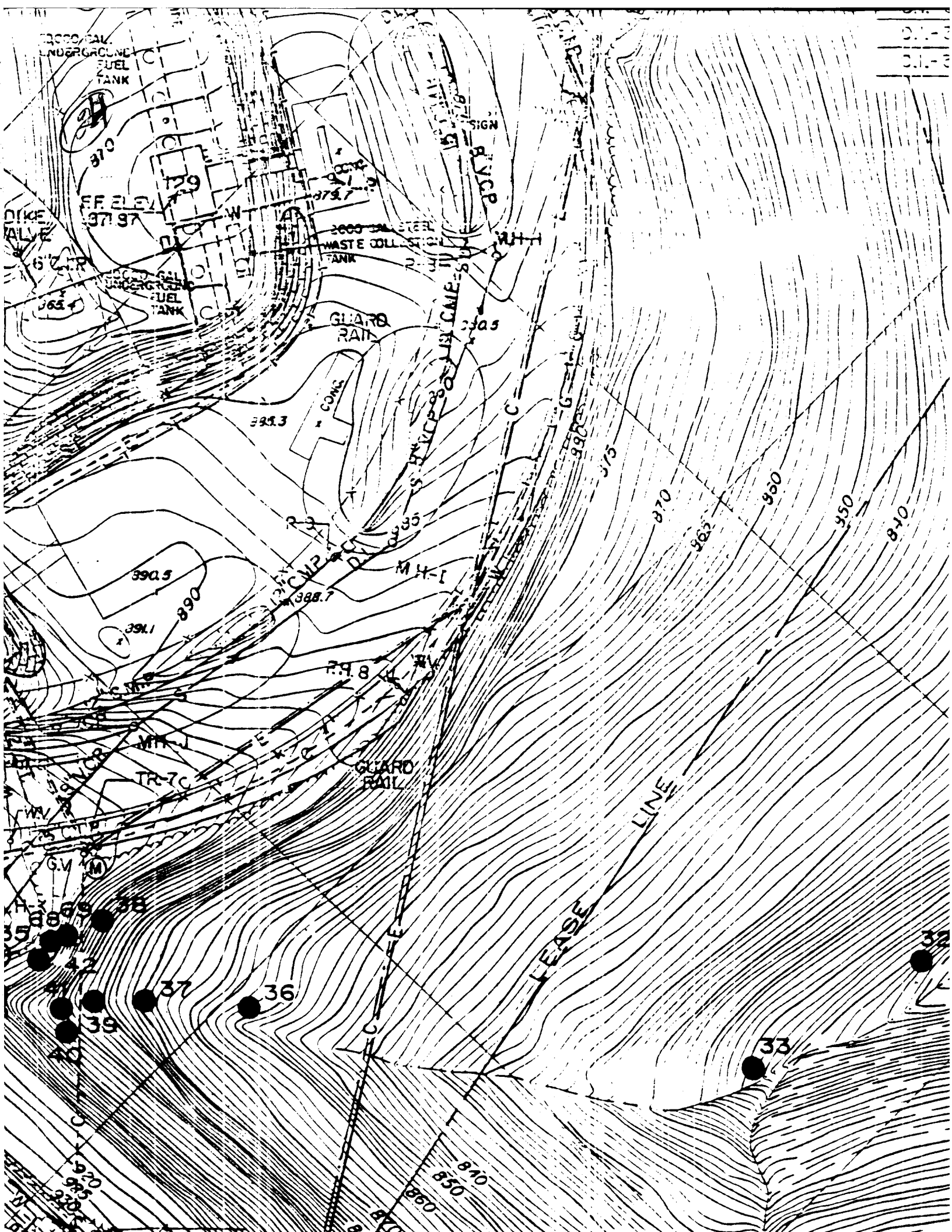
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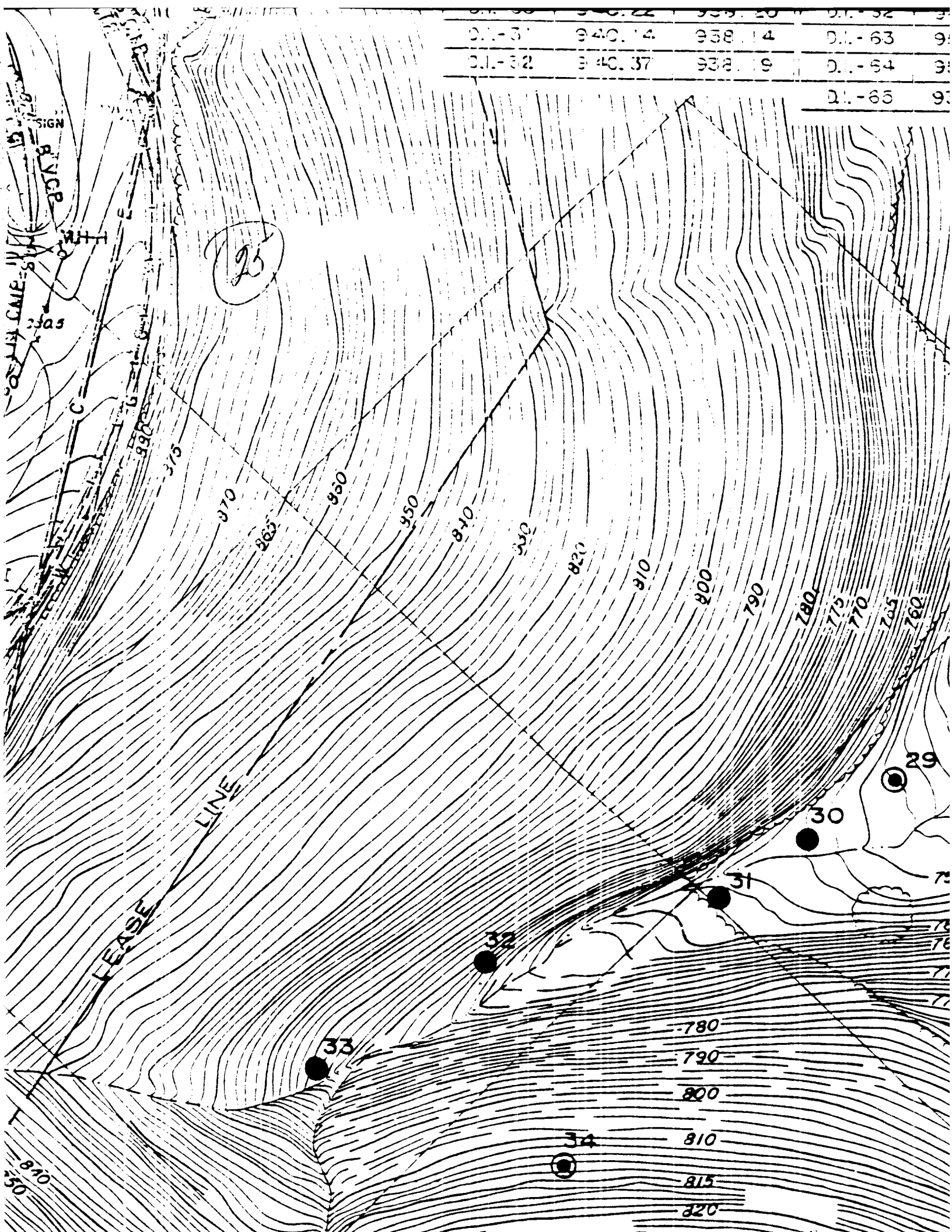



ELECT.
65
67
66
FENCE
2-2" Conduits Capped
W/ Pullwire
CONC. PAD
D.I.
L.P.
338.4
M.H.
125
F.H. 12
F.F. ELEV.
932.30
4" C.M.P.
932.9
933.3
6" P.V.C.
935
935.1
83 SLUICE GATE
D.I-26
SD
24" C.M.P.
36" C.M.P.
P-1
DISPLAY
CONC. LINED
30" C.M.P.
D.I-2
GUARD RAIL
SIGN
15" ST.
N.V.
D.I-5
D.I.
72
71
D.I-6
CONC. RET. WALLS
73
6" P.V.C.
938.2
109
FF ELEV.

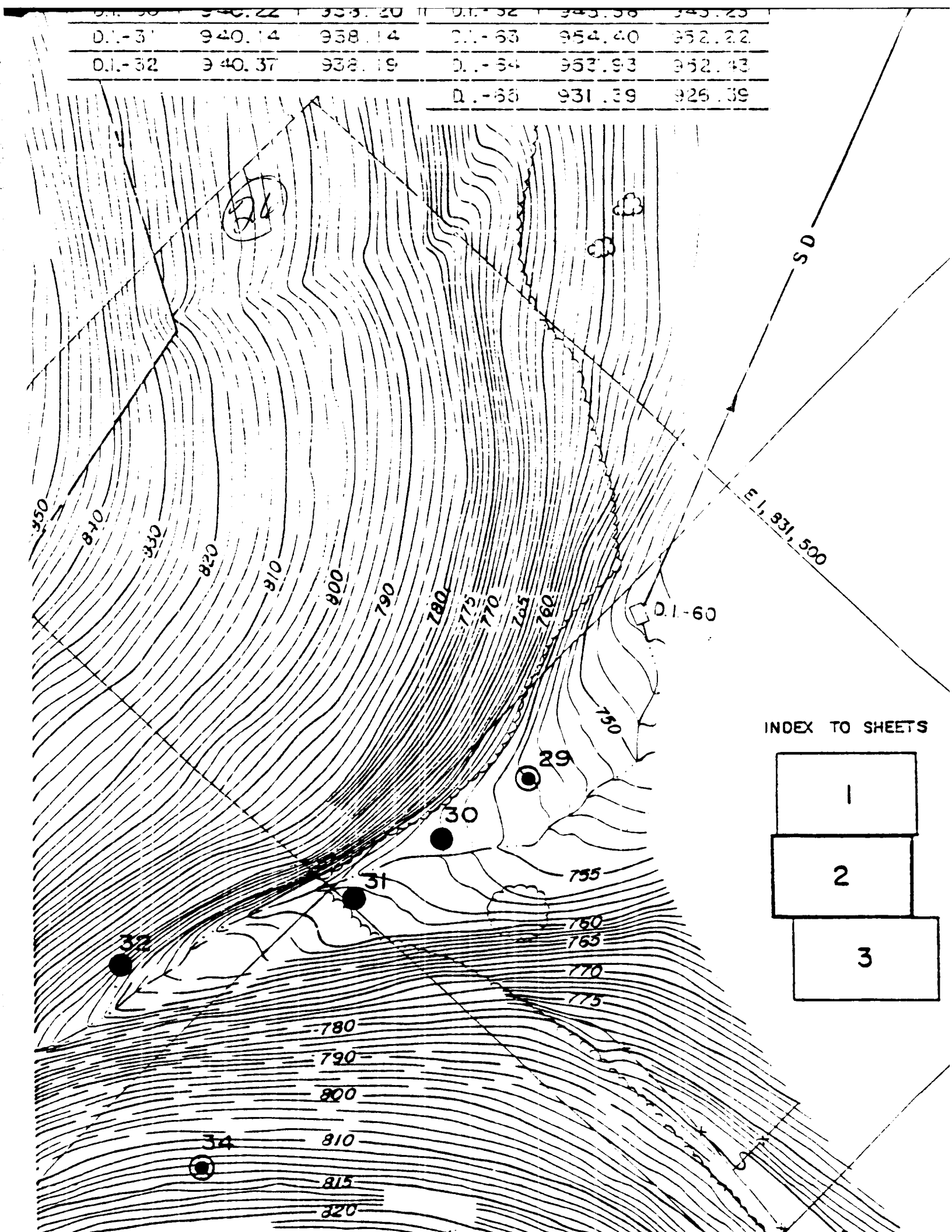

CONCRETE BLOCK SLOPE PROTECTION
DIKE VALVE
PRESSURE REDUCING VALVE
FF ELEV 900.75
CONC. LINED
P-1 DISPLAY
30" C.M.P.
D.I-2
GUARD RAIL
D.I.
15" ST.
36" C.M.P.
6" P.V.C.
CONC. RET. WALLS
D.I-26
F.H.
938.2
109
FF ELEV
129
44
39
38
35
72
71
73
2" ST.
4" C.I.P.
M.H.


CONCRETE BLOCK SLOPE PROTECTION
DIKE
VALVE
6" C.I.P.
PRESSURE REDUCING VALVE
F.F. ELEV. 971.97
F.F. ELEV. 900.75
GUARD RAIL
SIGN
R.C.P.
M.H.
G.V.
TR-7
15" ST.
2" ST.
6" P.V.C.
4" C.I.P.
D.I-6
D.I-7
109
EASE

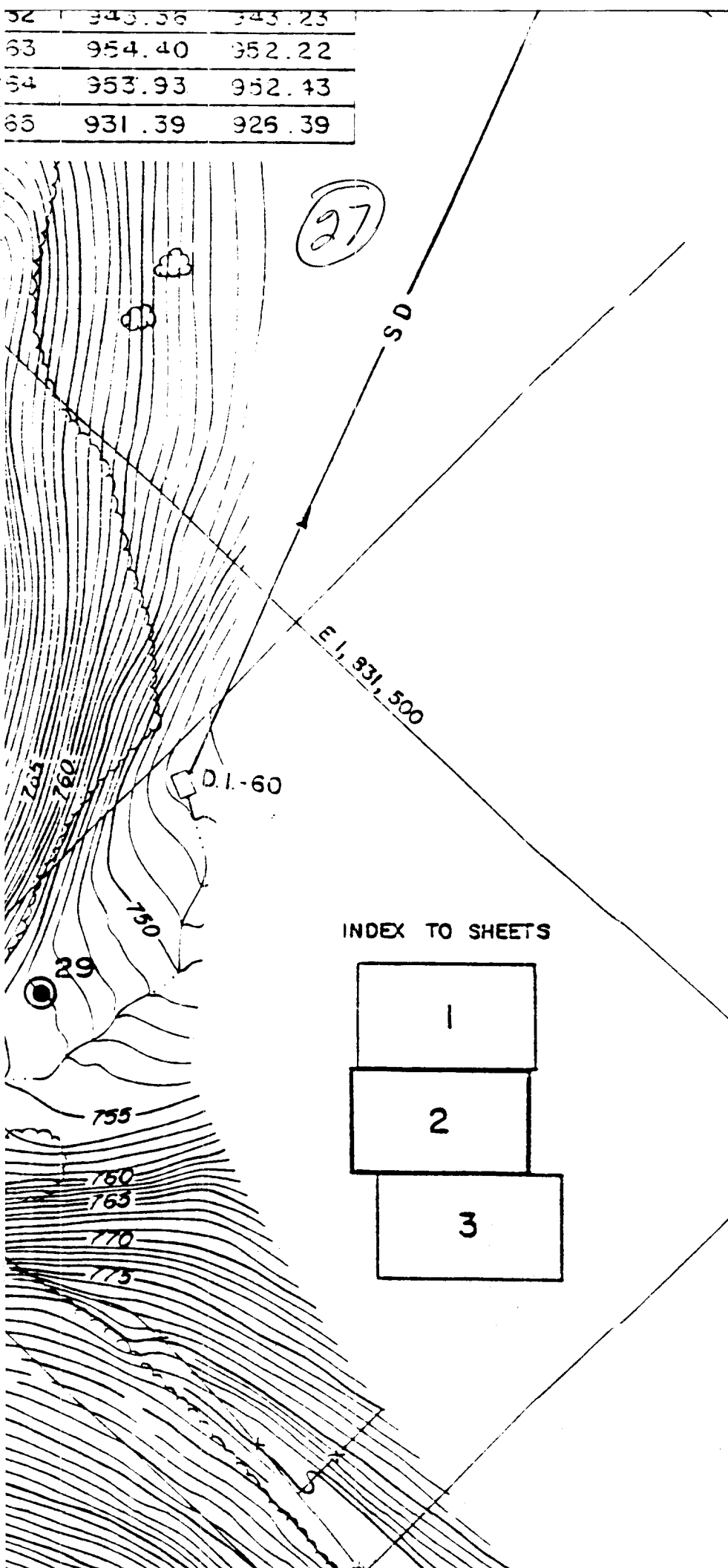

GUARD RAIL
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D.I.-31
940.14
938.14
D.I.-63
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D.I.-64
D.I.-65
SIGN
R.V.C.P.
23
LEASE LINE
370
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775
760
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820

D.I.-30	940.22	938.20	D.I.-62	945.58	945.25
D.I.-31	940.14	938.14	D.I.-63	954.40	952.22
D.I.-32	940.37	938.19	D.I.-64	952.93	952.43
			D.I.-66	931.39	926.39

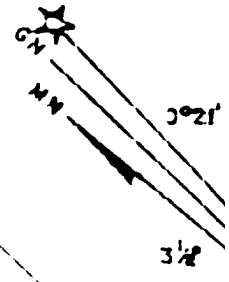


62	943.56	943.23
63	954.40	952.22
64	953.93	952.43
65	931.39	926.39



INDEX TO SHEETS

—C—	COMMUNICATION LEASED
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGRO
—E—	ELECTRICAL (ABOVE GRO
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
~	POLE
D.I.□	DROP INLET
M.H.○	MANHOLE
W.V.○	WATER VALVE
L.P.○	LIGHT POLE
O.S.□	OIL SEPARATOR
F.H.○	FIRE HYDRANT
C.O.○	CLEAN OUT
G.V.○	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
▣	PEDESTAL
——+——+——	ABANDONED UTILITY
——|——|——	GUARD RAIL
P.V.C.	PLASTIC PIPE
C.M.P.	CORRUGATED METAL PIPE
R.C.P.	REINFORCED CONCRETE PI
V.C.P.	VITRIFIED CLAY PIPE
P.L.	PLASTIC LINE
C.I.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE
(M)	METER



NATIONAL

28

—C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWER
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGROUND)
—E—	ELECTRICAL (ABOVE GROUND)
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—L.F—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
○	POLE
D.I.□	DROP INLET
M.H.○	MANHOLE
W.V.○	WATER VALVE
L.P.○	LIGHT POLE
C.S.□	OIL SEPARATOR
F.H.○	FIRE HYDRANT
C.O.○	CLEAN OUT
G.V.○	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⧈	PEDESTAL
———	ABANDONED UTILITY
—I—I—	GUARD RAIL
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C.M.P.	CORRUGATED METAL PIPE
R.C.P.	REINFORCED CONCRETE PIPE
V.C.P.	VITRIFIED CLAY PIPE
P.L.	PLASTIC LINE
C.I.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE
Ⓜ	METER

N 300,250

E 1,831,750

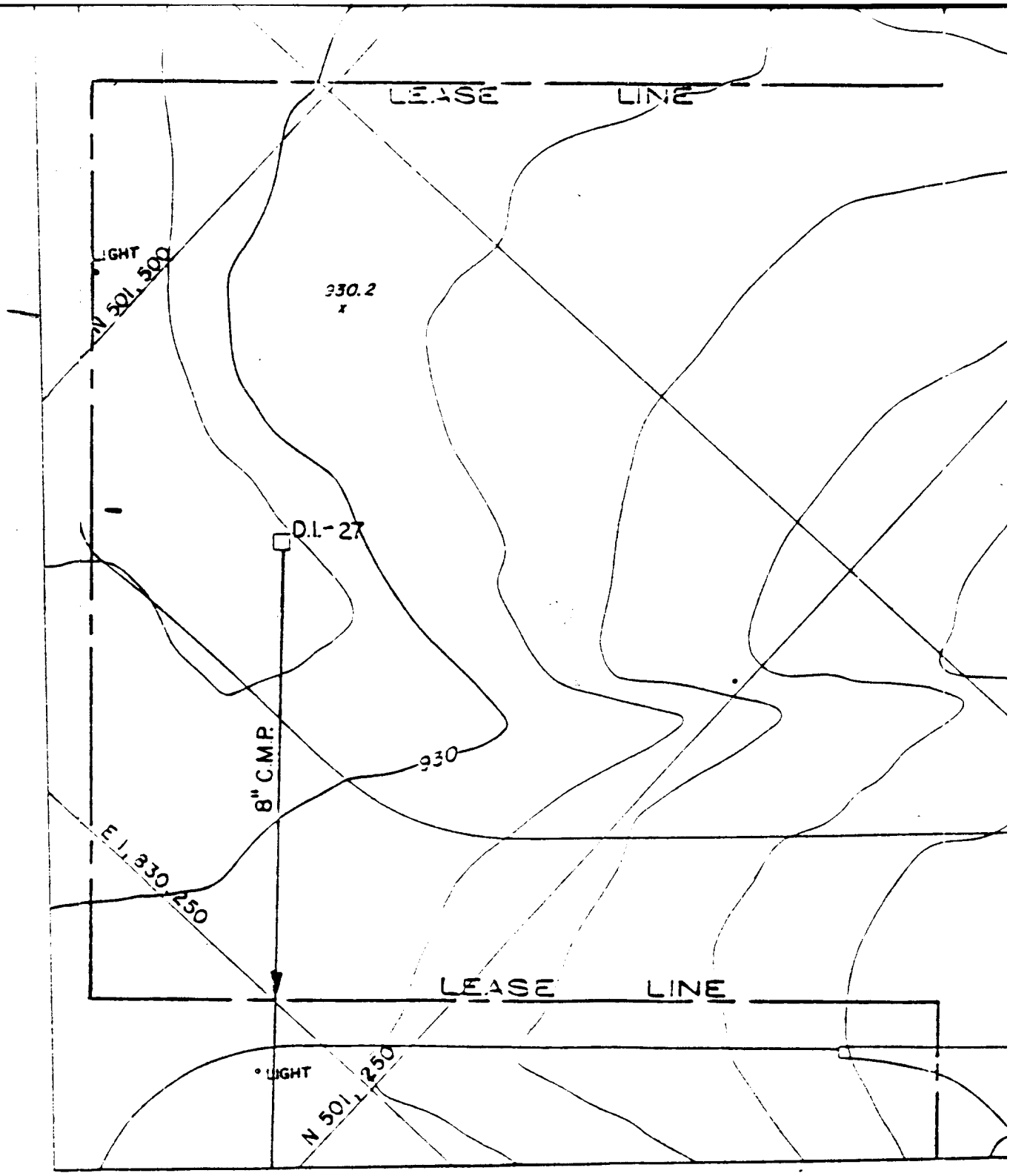
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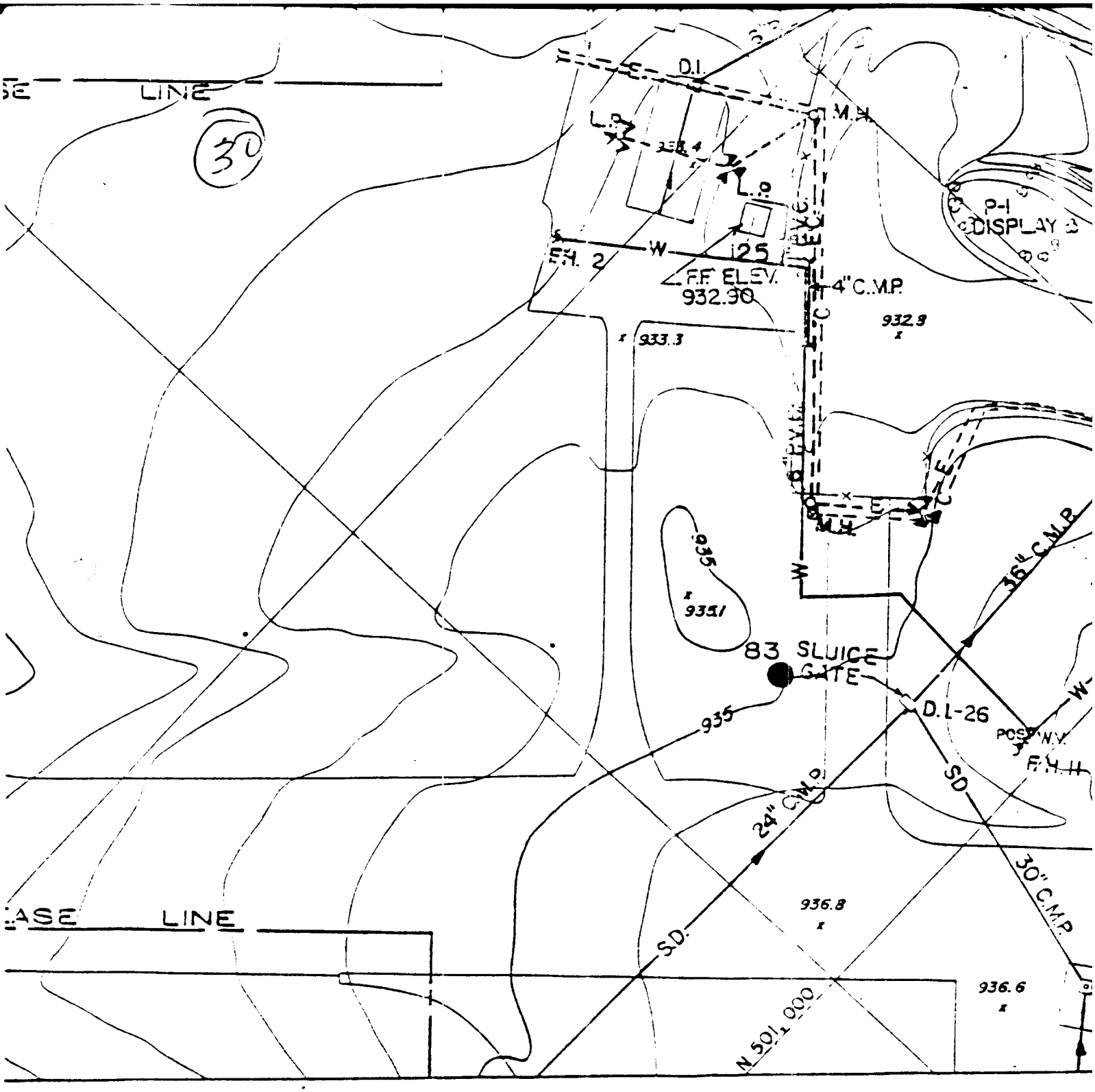
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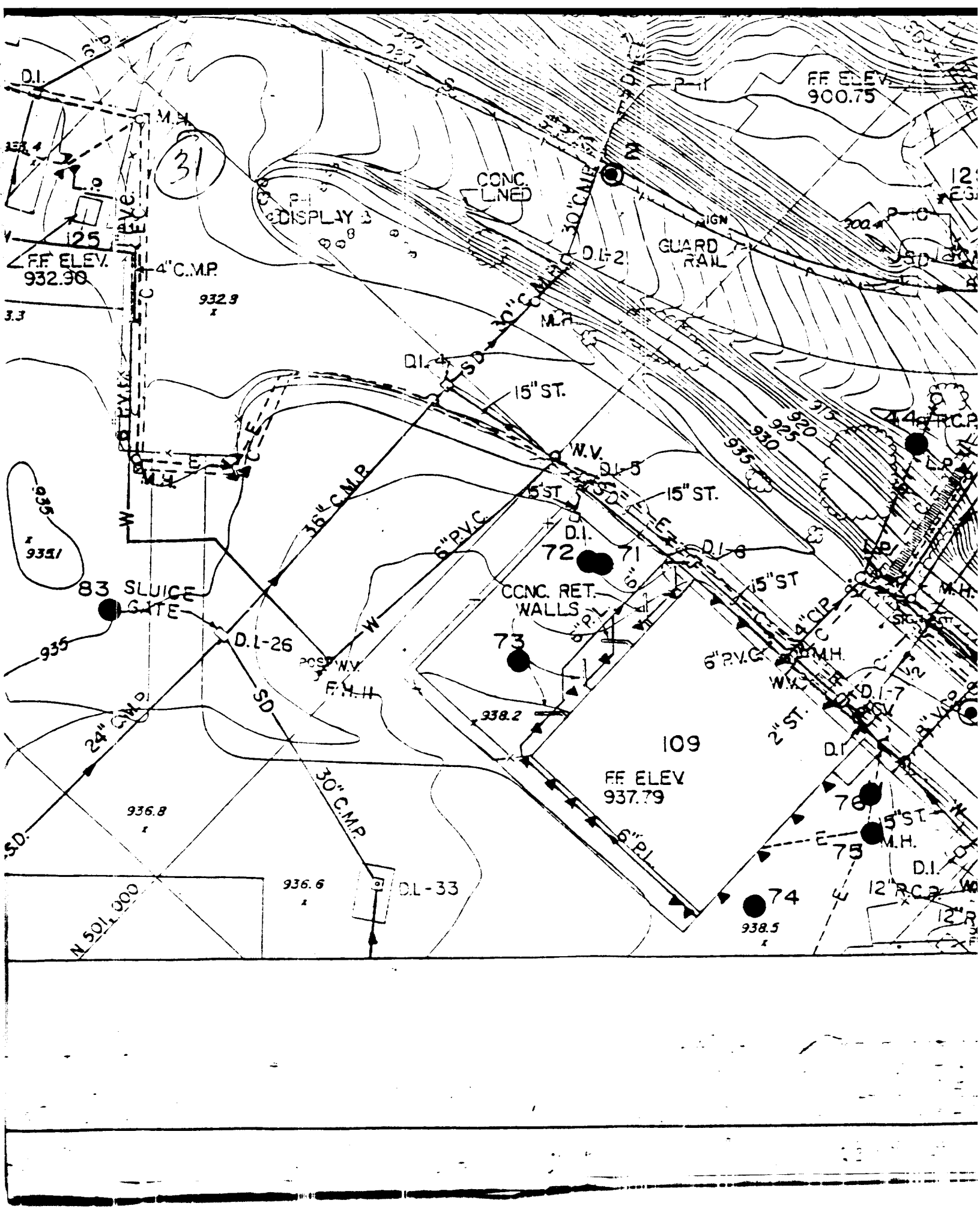
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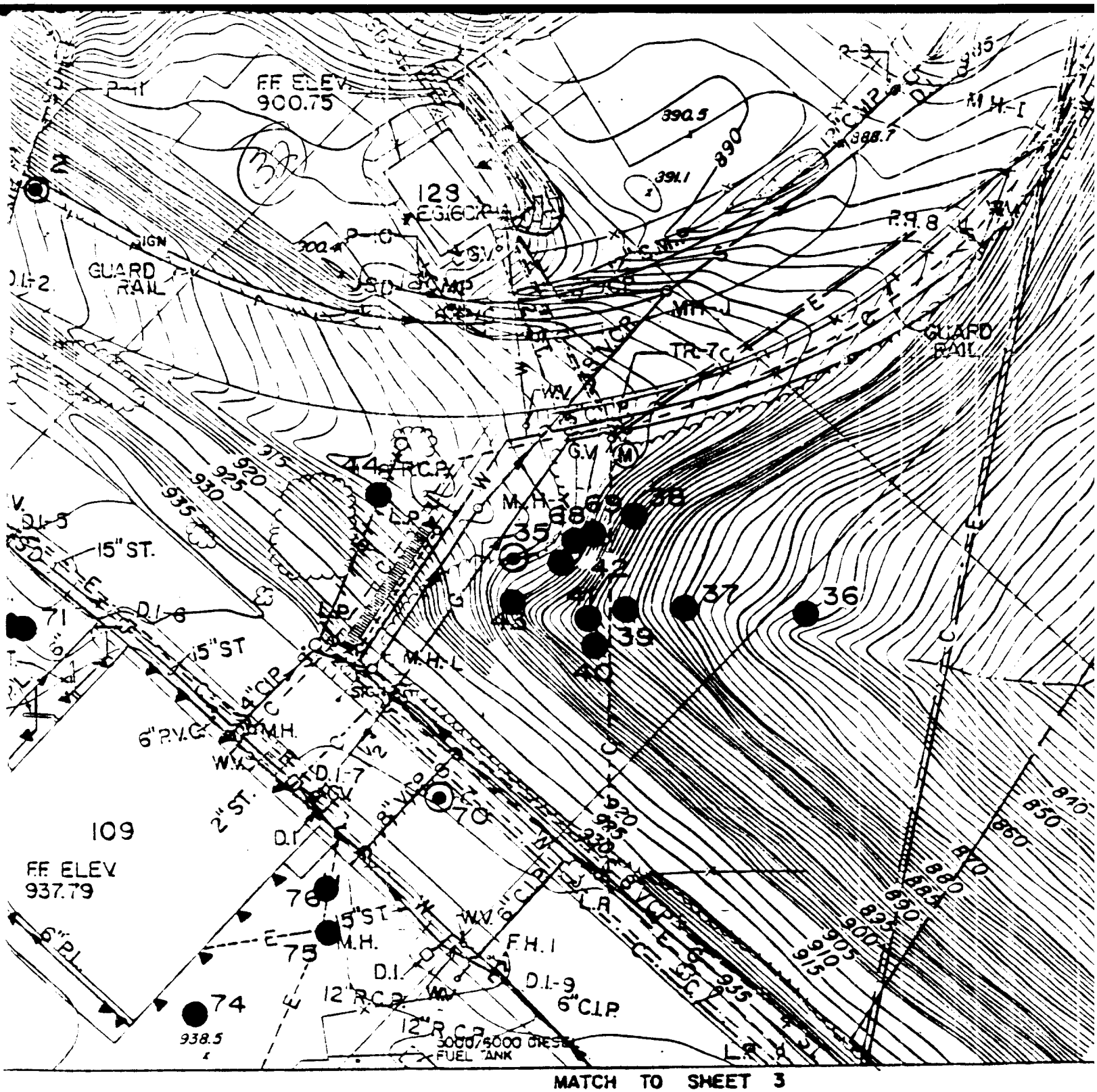
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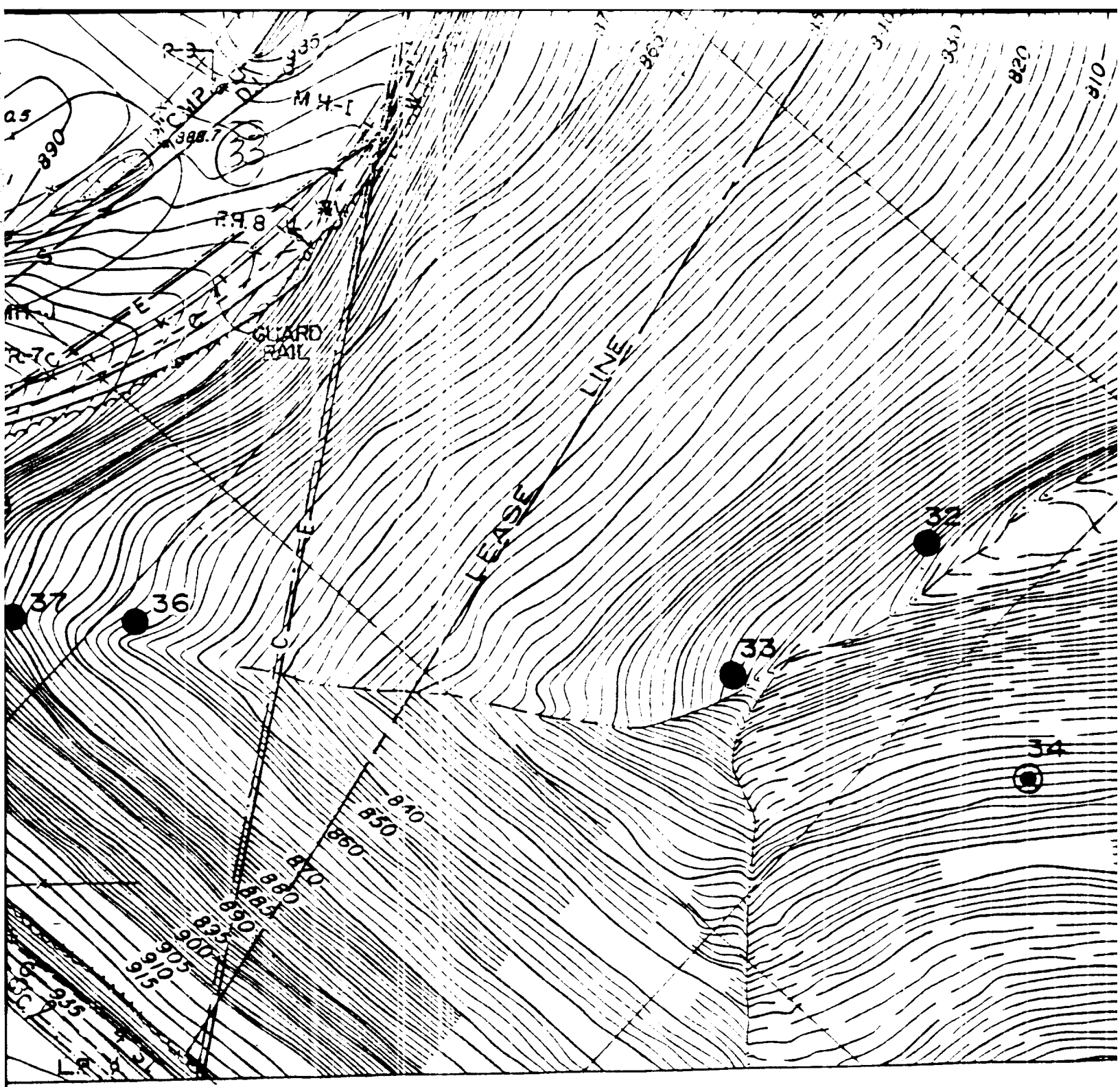
NATIONAL GUARD BUREAU


LEASE LINE
LIGHT
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930.2
D.I.-27
8" C.M.P.
930
E L 330
250
LEASE LINE
LIGHT
N 50 L 250


SE LINE
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D.I.
L.P.
L.P.
M.H.
P-1
DISPLAY
W 125
F.H. 2
F.F. ELEV.
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4" C.M.P.
932.9
933.3
935
935.1
83 SLUICE GATE
36" C.M.P.
D.I-26
935
POST
N.V.
F.H. 1
24" C.M.P.
SD.
30" C.M.P.
936.8
936.6
BASE LINE
N 50½ 00'


D.I.
M.H.
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125
F.F. ELEV.
932.90
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932.9
CONC. LINED
DISPLAY
30" C.M.P.
GUARD RAIL
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D.I-4
SD
15" ST.
N.V.
D.I-5
15" ST.
36" C.M.P.
6" P.V.C.
D.I.
72
71
D.I-8
CONC. RET. WALLS
15" ST
6" P.V.C.
M.H.
83 SLUICE GATE
935
D.I-26
POST N.V.
F.H.H.
73
6" P.V.C.
M.H.
D.I-7
938.2
2" ST.
109
F.F. ELEV.
937.79
D.I.
24" C.M.P.
936.8
30" C.M.P.
76
15" ST.
M.H.
75
D.I.
936.6
D.I-33
74
938.5
12" R.C.P.
N 50° 00' W

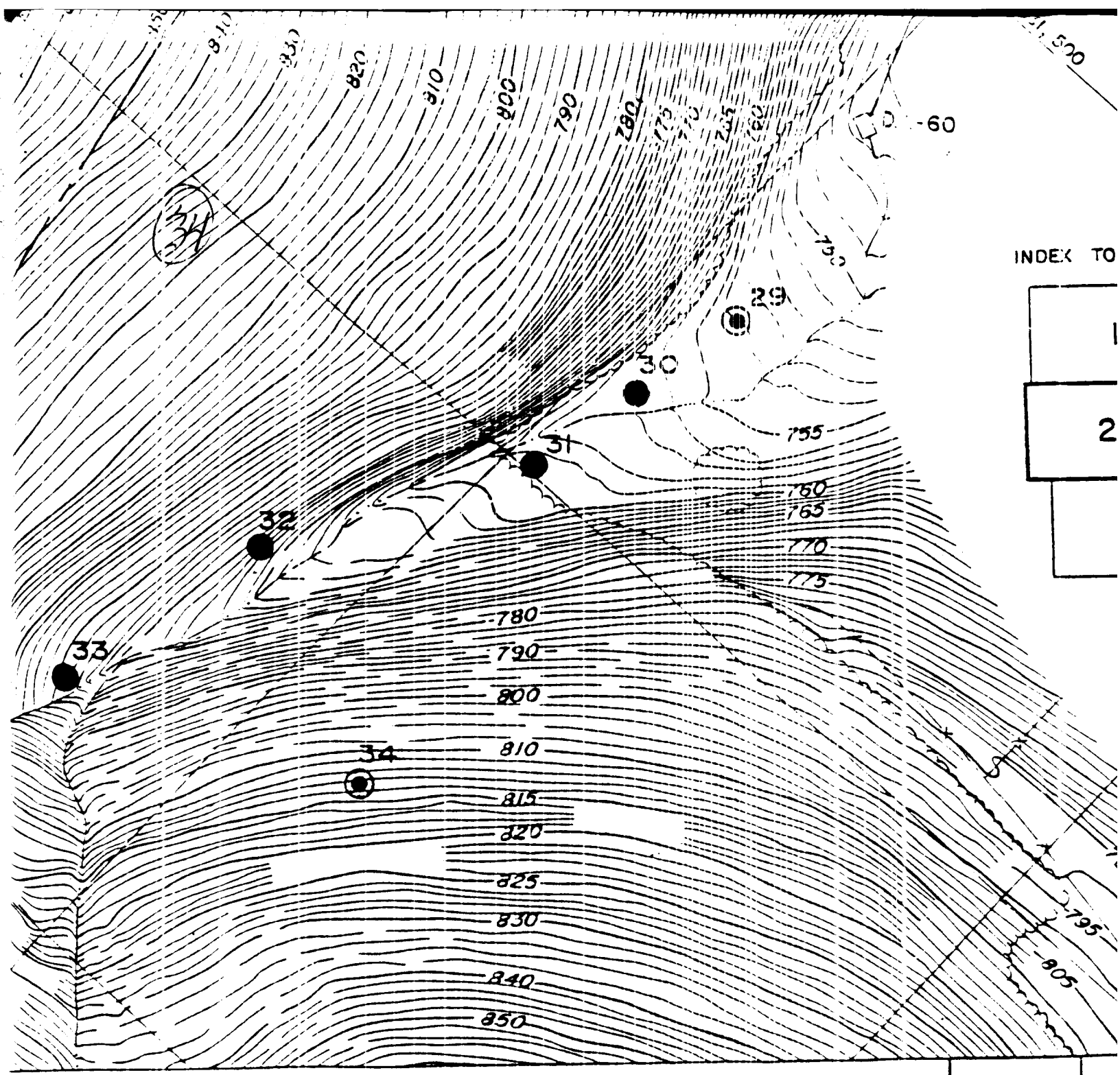

F.F. ELEV.
900.75
128
EGIEOP
GUARD RAIL
GUARD RAIL
TR-7
D.I-2
15" ST.
D.I-6
15" ST
4" C.I.P.
6" P.V.C.
M.H.
W.V.
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D.I.
12" R.C.P.
F.H.1
D.I-9
6" C.I.P.
12" R.C.P.
3000/5000 DIESEL FUEL TANK
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M.H.-40



SHEET 3

GRID BASED ON WEST VIRGINIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) 1927 N.A. DATUM. VERTICAL CONTROL BASED ON 1929 MEAN SEA LEVEL DATUM.

50

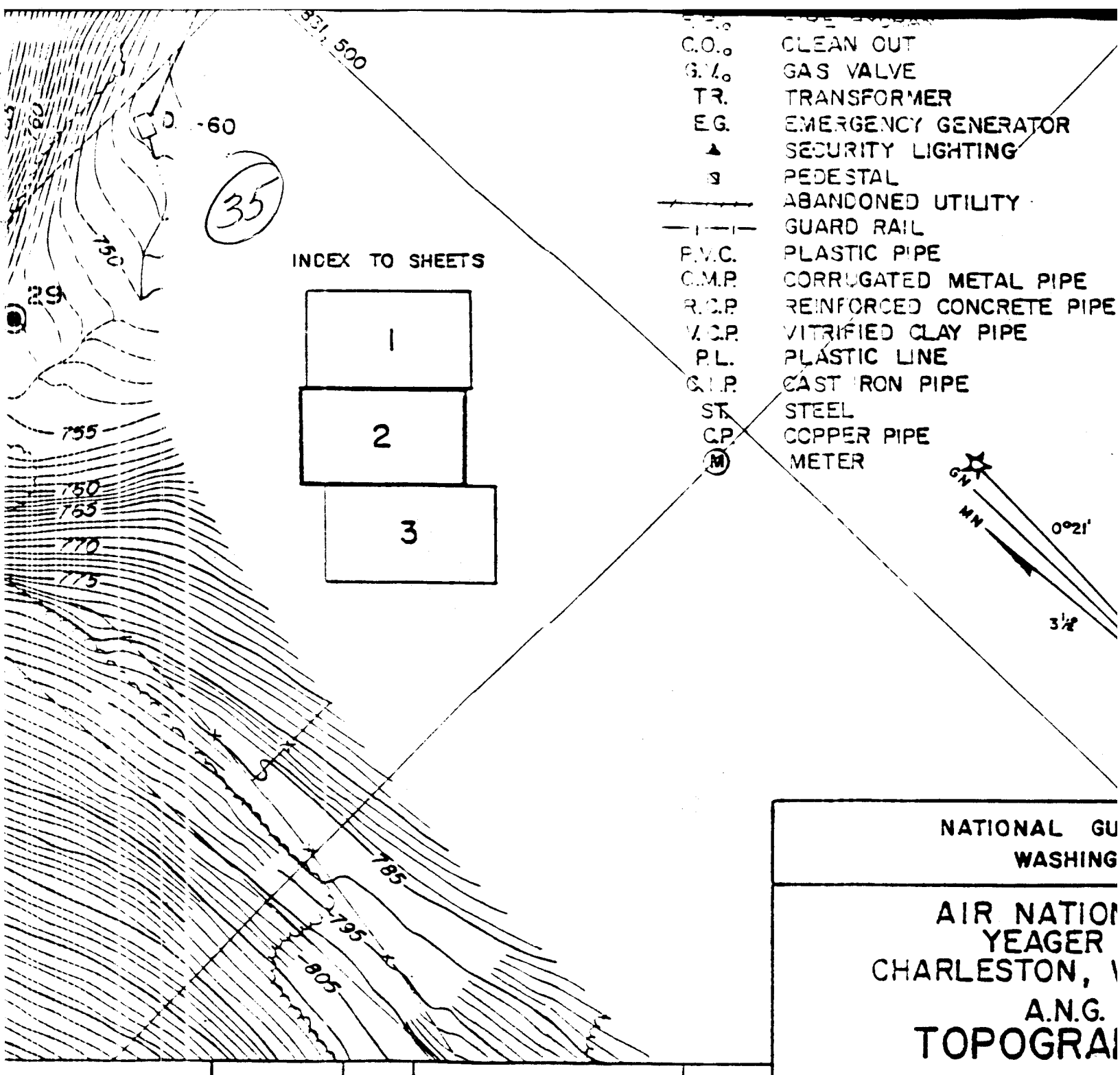


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SEA LEVEL

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SCALE IN FEET

DATE	NO



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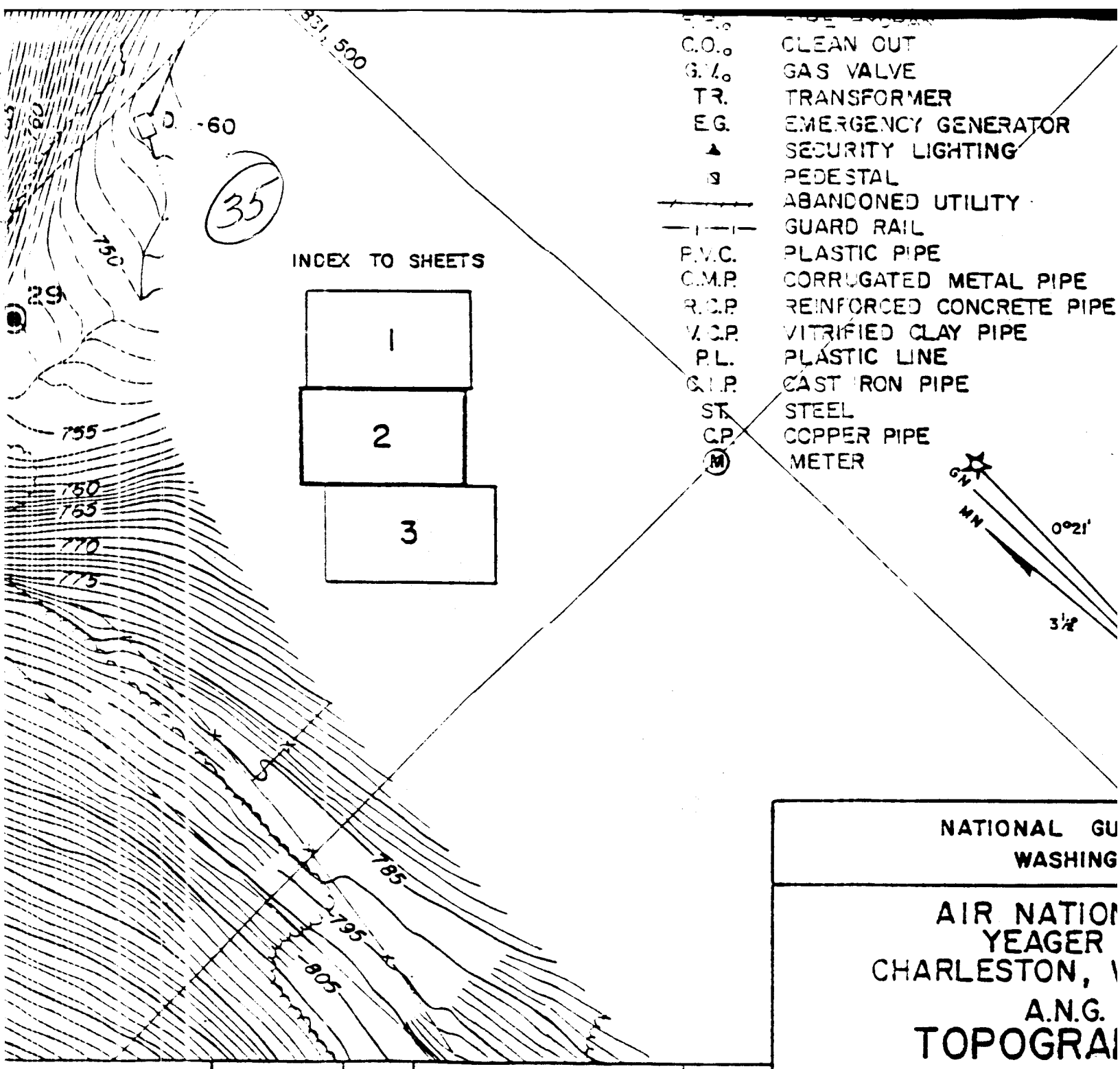
AIR NATIO
YEAGER
CHARLESTON, W
A.N.G.
TOPOGRA

CONTOUR INTERVAL: 1' & 2'

DATE	NO.	DESCRIPTION	BY

REVISIONS

L. ROBERT KIMBALL & ASSOC
Consulting Engineers & Archi
EBENSBURG, PA. HUNTINGTO



NATIONAL GU
WASHING

AIR NATION
YEAGER
CHARLESTON, W
A.N.G.
TOPOGRA

CONTOUR INTERVAL: 1' & 2'

L. ROBERT KIMBALL & ASSOC
Consulting Engineers & Archi
EBENSBURG, PA. HUNTINGTO

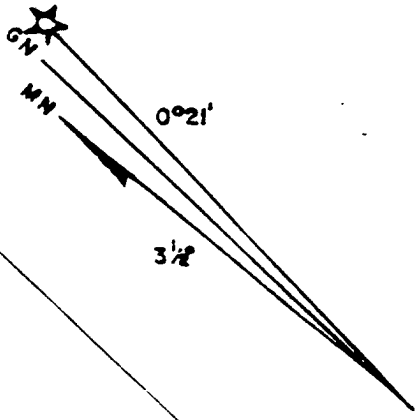
DATE	NO.	DESCRIPTION	BY

REVISIONS

F.H.	FIRE HYDRANT
C.O.	CLEAN OUT
V.O.	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
⊡	PEDESTAL
———	ABANDONED UTILITY
——|—	GUARD RAIL
V.C.	PLASTIC PIPE
M.P.	CORRUGATIED METAL PIPE
C.P.	REINFORCED CONCRETE PIPE
C.P.	VITRIFIED CLAY PIPE
P.L.	PLASTIC LINE
C.P.	CAST IRON PIPE
ST.	STEEL
C.P.	COPPER PIPE
(M)	METER

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E 1,831,750



NATIONAL GUARD BUREAU
WASHINGTON D. C.

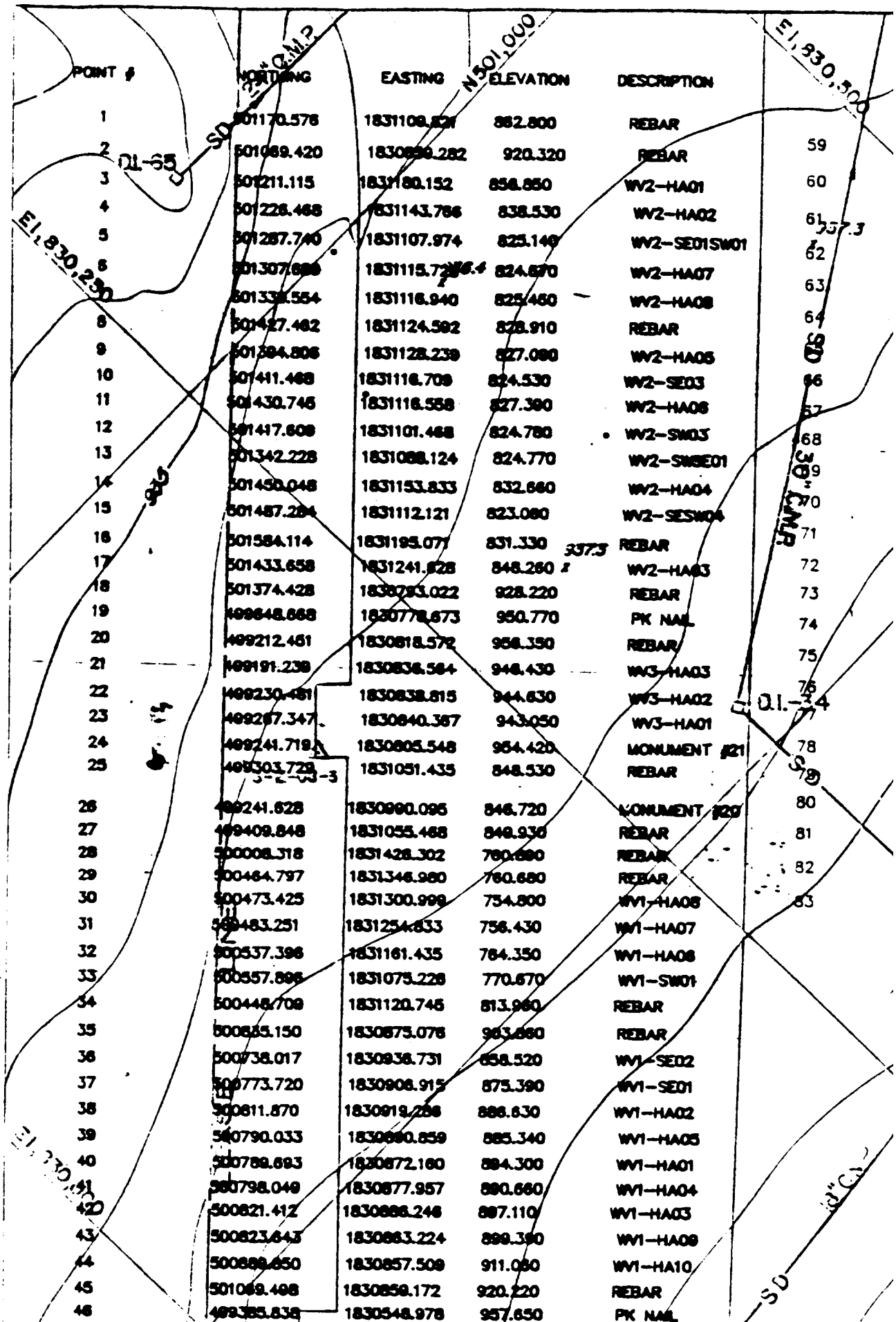
AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA
A.N.G. BASE
TOPOGRAPHIC MAP

CONTOUR INTERVAL: 1' & 2' DATE: MAY, 1985

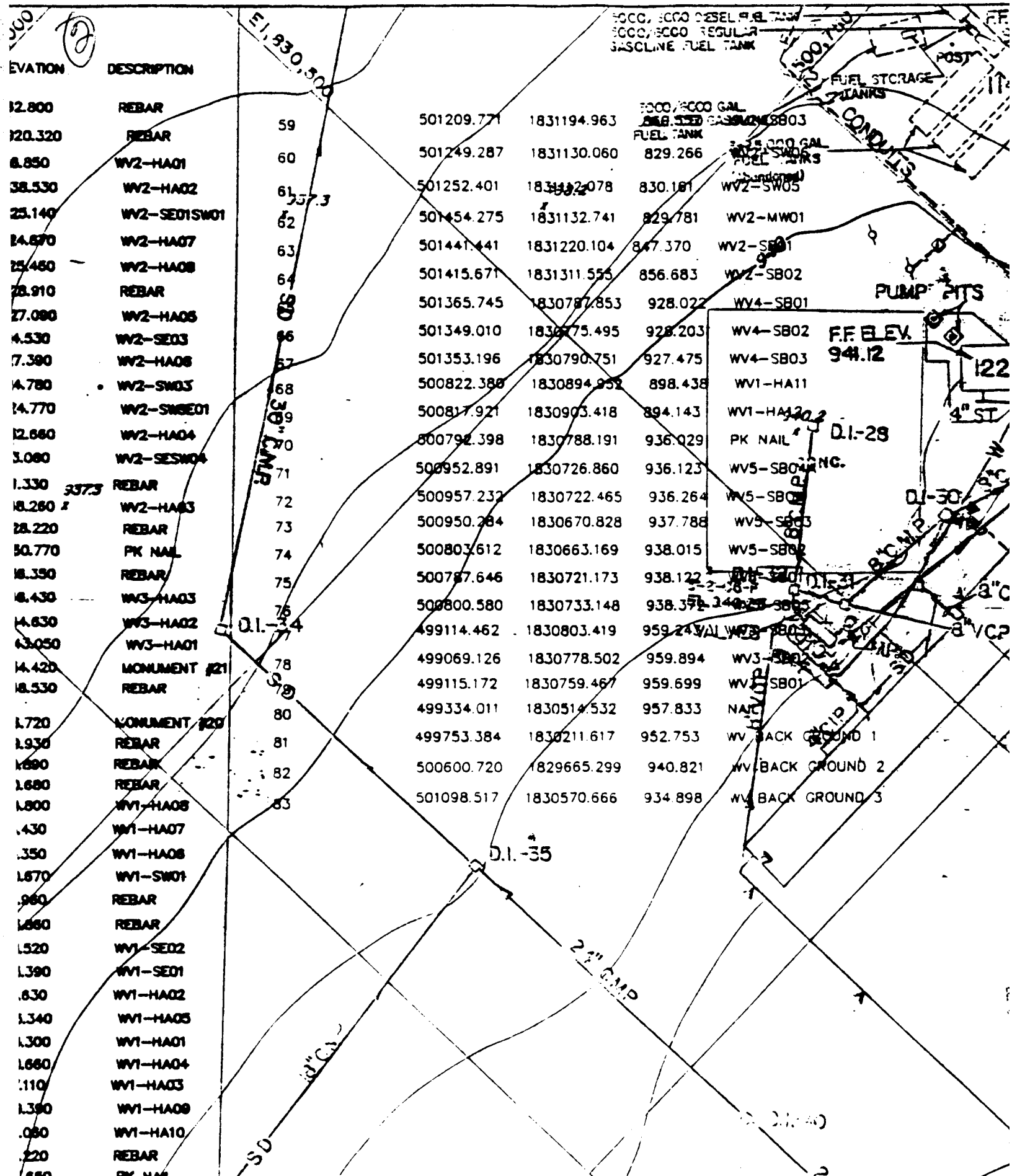
BY

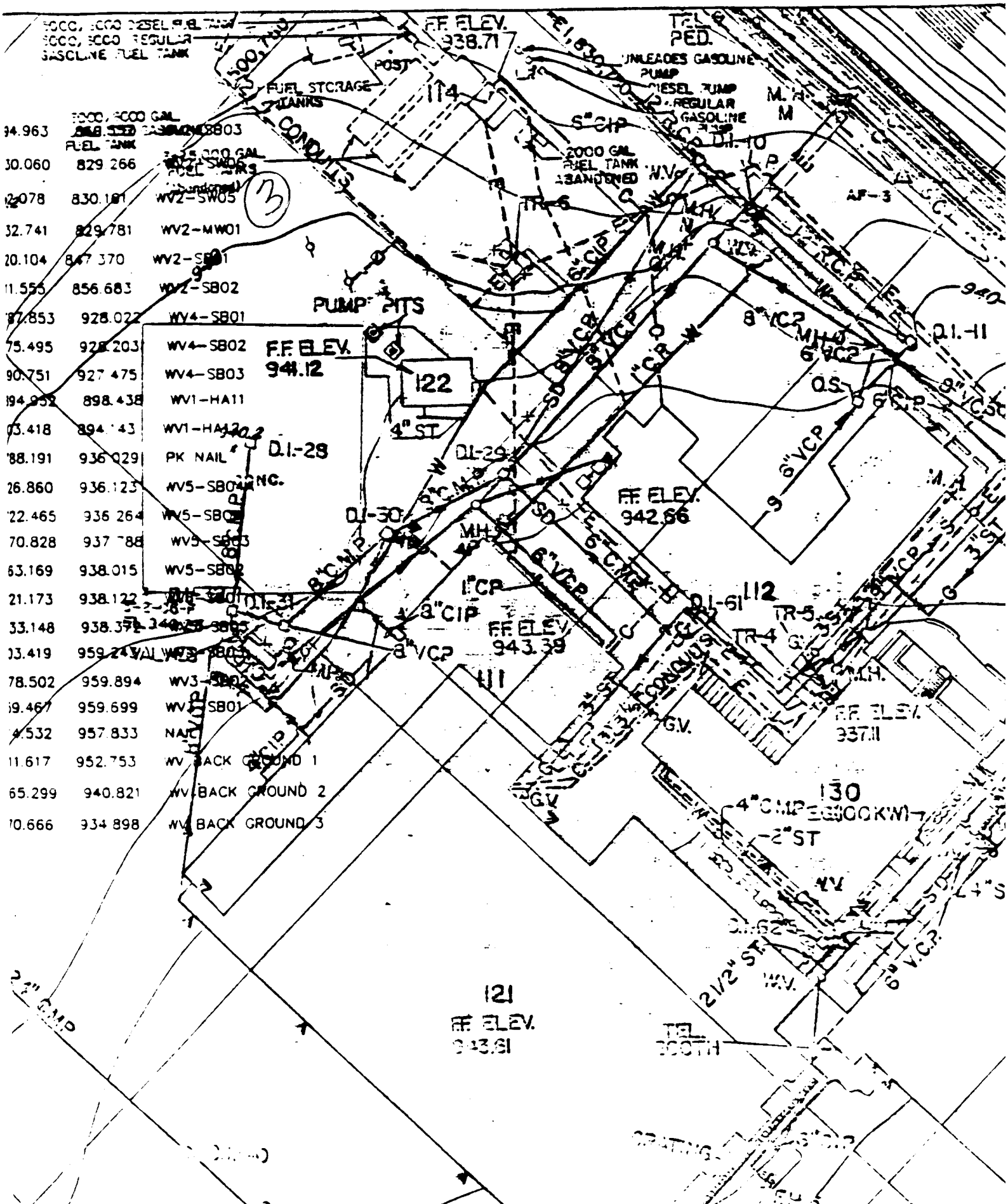
L. ROBERT KIMBALL & ASSOCIATES
Consulting Engineers & Architects
EBENSBURG, PA. HUNTINGTON, W.Va.

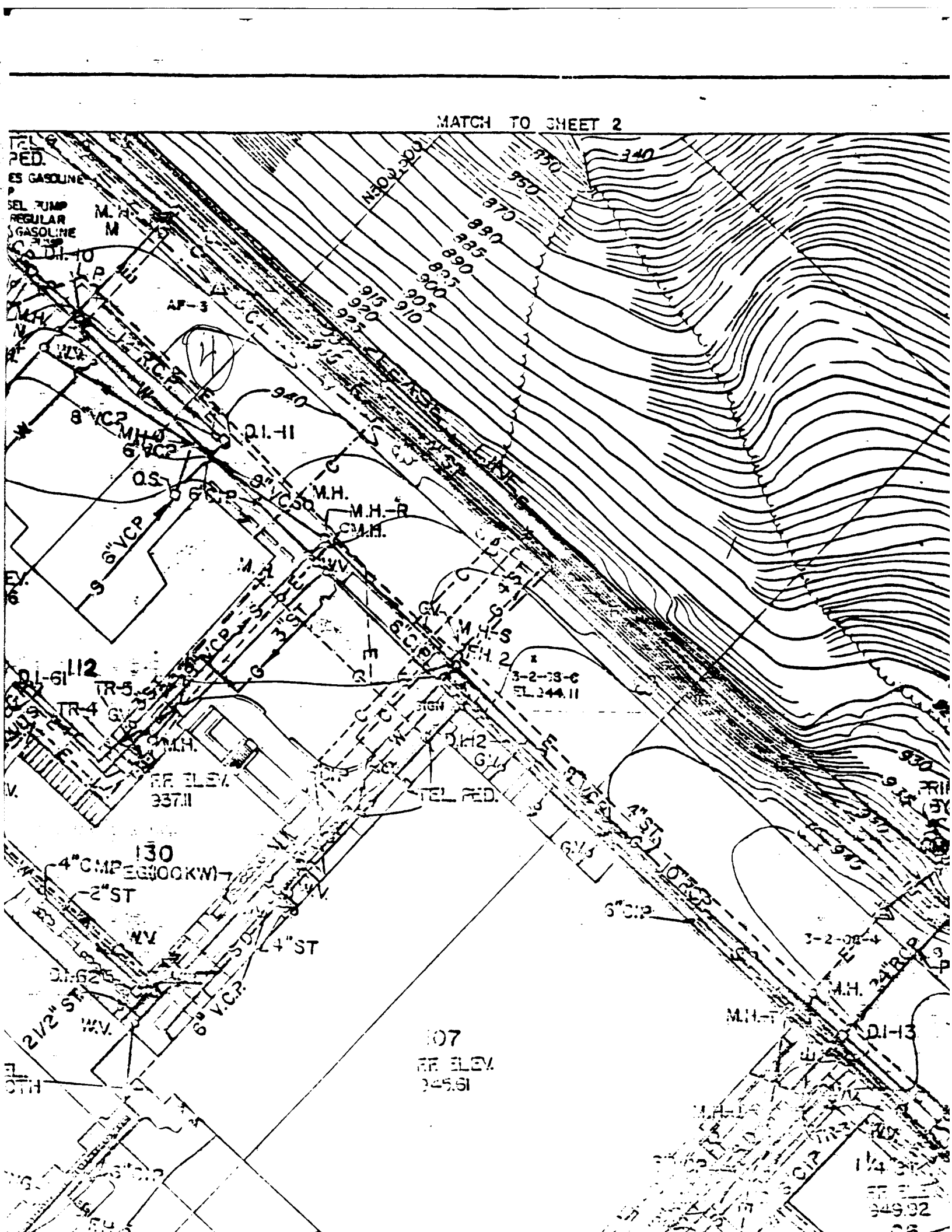
Sheet 2 of 3

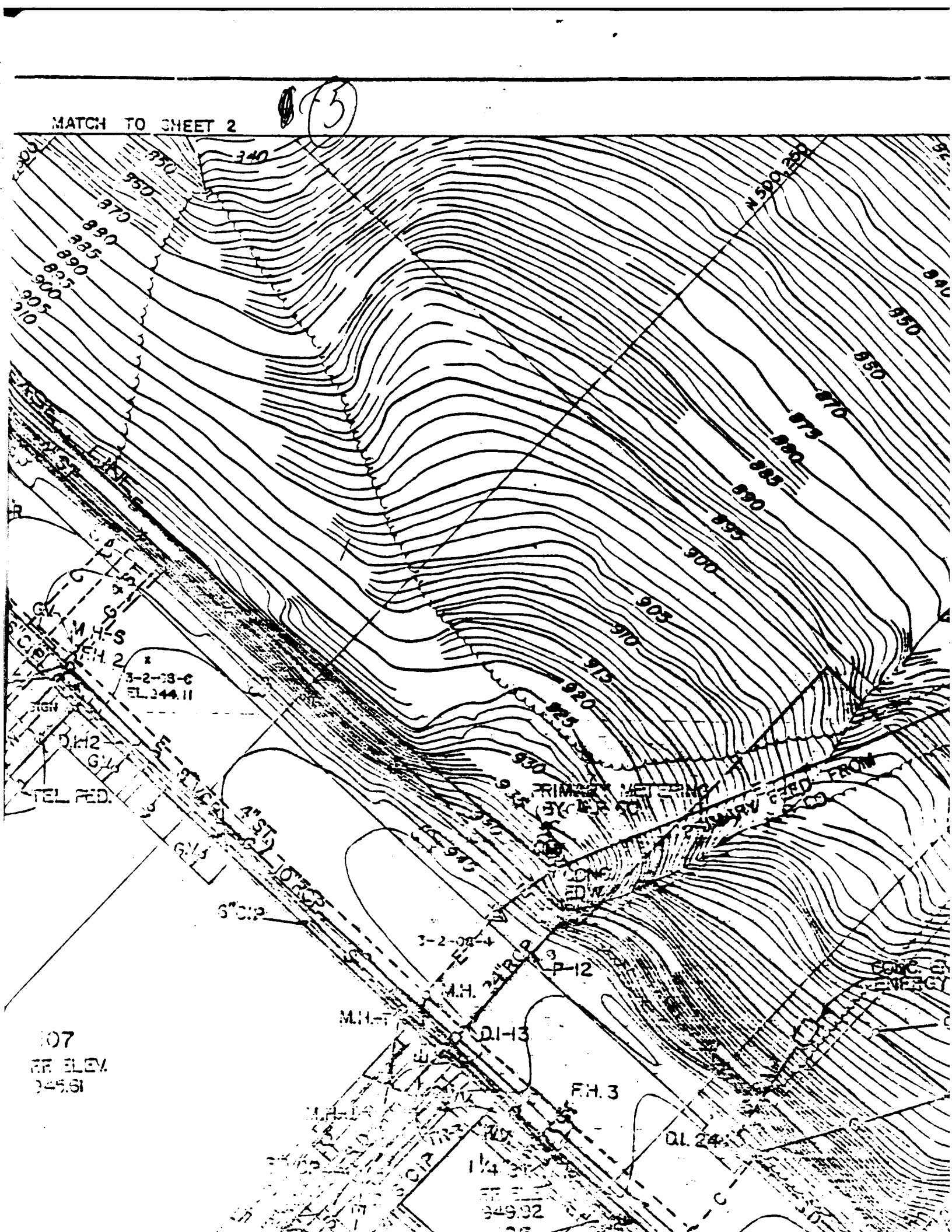


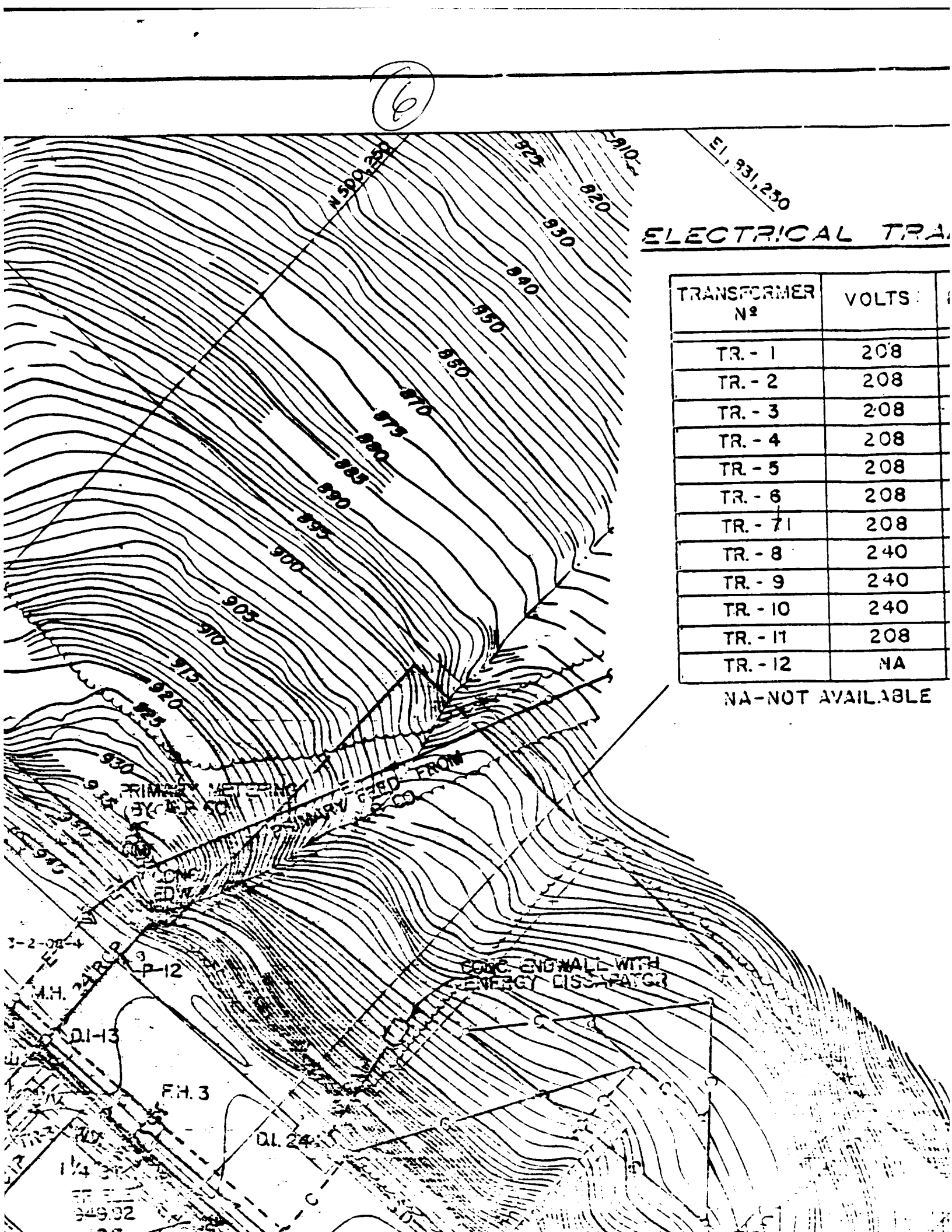
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	501170.576	1831109.821	882.800	REBAR
2	501069.420	1830899.282	920.320	REBAR
3	501211.115	1831180.152	858.850	WV2–HA01
4	501226.468	1831143.786	838.530	WV2–HA02
5	501287.740	1831107.974	825.140	WV2–SE01SW01
6	501307.686	1831115.728	824.870	WV2–HA07
7	501338.554	1831116.940	825.460	WV2–HA08
8	501427.462	1831124.592	828.910	REBAR
9	501384.806	1831128.239	827.080	WV2–HA05
10	501411.468	1831116.709	824.530	WV2–SE03
11	501430.745	1831116.558	827.390	WV2–HA06
12	501417.608	1831101.468	824.780	WV2–SW03
13	501342.228	1831088.124	824.770	WV2–SWSE01
14	501450.048	1831153.833	832.660	WV2–HA04
15	501487.284	1831112.121	823.080	WV2–SESW04
16	501584.114	1831195.071	831.330	REBAR
17	501433.658	1831241.828	848.260	WV2–HA03
18	501374.428	1830783.022	928.220	REBAR
19	499648.668	1830778.673	950.770	PK NAIL
20	499212.461	1830818.572	958.350	REBAR
21	499191.238	1830836.584	948.430	WV3–HA03
22	499230.481	1830838.815	944.630	WV3–HA02
23	499267.347	1830840.387	943.050	WV3–HA01
24	499241.719	1830805.548	954.420	MONUMENT #21
25	499303.729	1831051.435	848.530	REBAR
26	499241.628	1830990.095	846.720	MONUMENT #20
27	499409.848	1831055.468	848.930	REBAR
28	500008.318	1831428.302	780.690	REBAR
29	500464.797	1831346.980	760.680	REBAR
30	500473.425	1831300.999	754.800	WV1–HA06
31	500483.251	1831254.833	756.430	WV1–HA07
32	500537.396	1831161.435	764.350	WV1–HA08
33	500557.898	1831075.228	770.670	WV1–SW01
34	500448.709	1831120.745	813.980	REBAR
35	500555.150	1830875.078	983.660	REBAR
36	500736.017	1830938.731	858.520	WV1–SE02
37	500773.720	1830908.915	875.390	WV1–SE01
38	500811.870	1830919.286	886.630	WV1–HA02
39	500790.033	1830880.859	885.340	WV1–HA05
40	500788.693	1830872.160	884.300	WV1–HA01
41	500798.049	1830877.957	880.660	WV1–HA04
42	500821.412	1830886.248	887.110	WV1–HA03
43	500823.643	1830863.224	899.390	WV1–HA09
44	500889.650	1830857.509	911.080	WV1–HA10
45	501069.498	1830859.172	920.220	REBAR
46	499385.838	1830548.978	957.650	PK NAIL


EVATION DESCRIPTION
2.800 REBAR
20.320 REBAR
6.850 WV2-HA01
38.530 WV2-HA02
25.140 WV2-SE01SW01
24.870 WV2-HA07
25.460 WV2-HA08
28.910 REBAR
27.080 WV2-HA05
4.530 WV2-SE03
7.390 WV2-HA06
4.780 WV2-SW03
24.770 WV2-SWSE01
32.660 WV2-HA04
3.080 WV2-SESW04
1.330 REBAR
18.260 WV2-HA03
28.220 REBAR
30.770 PK NAIL
18.350 REBAR
18.430 WV3-HA03
14.630 WV3-HA02
43.050 WV3-HA01
14.420 MONUMENT #21
18.530 REBAR
1.720 MONUMENT #20
1.930 REBAR
1.690 REBAR
1.680 REBAR
1.800 WV1-HA08
.430 WV1-HA07
.350 WV1-HA06
1.670 WV1-SW01
.960 REBAR
1.660 REBAR
1.520 WV1-SE02
1.390 WV1-SE01
.630 WV1-HA02
1.340 WV1-HA05
1.300 WV1-HA01
1.660 WV1-HA04
.110 WV1-HA03
1.390 WV1-HA09
.080 WV1-HA10
.220 REBAR
E1,930,500
59
60
61
62
63
64
65
66
67
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69
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71
72
73
74
75
76
77
78
79
80
81
82
83
D.I.-34
D.I.-35
501209.771 1831194.963 FUEL TANK
501249.287 1831130.060 829.266
501252.401 830.181 WV2-SW05
501454.275 1831132.741 829.781 WV2-MW01
501441.441 1831220.104 847.370 WV2-SB01
501415.671 1831311.555 856.683 WV2-SB02
501365.745 928.022 WV4-SB01
501349.010 928.203 WV4-SB02
501353.196 1830790.751 927.475 WV4-SB03
500822.380 1830894.952 898.438 WV1-HA11
500817.921 1830903.418 894.143 WV1-HA12
500792.398 1830788.191 936.029 PK NAIL
500952.891 1830726.860 936.123
500957.232 1830722.465 936.264
500950.284 1830670.828 937.788
500803.612 1830663.169 938.015
500787.646 1830721.173 938.122
500800.580 1830733.148 938.372
499114.462 1830803.419 959.243
499069.126 1830778.502 959.894
499115.172 1830759.467 959.699
499334.011 1830514.532 957.833
499753.384 1830211.617 952.753 WV BACK GROUND 1
500600.720 1829665.299 940.821 WV BACK GROUND 2
501098.517 1830570.666 934.898 WV BACK GROUND 3
F.F. ELEV. 941.12
PUMP PITS
D.I.-28
D.I.-30
D.I.-31
CONDUITS
FUEL STORAGE TANKS
POST
4" ST
8"C
8"CP
2" GMP
SD


F.F. ELEV. 938.71
TEL PED.
UNLEADED GASOLINE PUMP
DIESEL PUMP
REGULAR GASOLINE
FUEL STORAGE TANKS
2000 GAL FUEL TANK ABANDONED
CONDUITS
PUMP PITS
F.F. ELEV. 941.12
F.F. ELEV. 942.66
F.F. ELEV. 943.39
F.F. ELEV. 937.11
F.F. ELEV. 943.61
114
122
112
111
130
121
D.I.-10
D.I.-11
D.I.-28
D.I.-29
D.I.-30
D.I.-61
TR-4
TR-5
TR-6
M.H.
G.V.
W.V.
4" ST
3" ST
2" ST
2 1/2" ST
8" VCP
6" VCP
8" CIP
6" CIP
8" CMP
4" CMP
1" CP
3" SP
94.963 WV2-SW04
30.060 829.266 WV2-SW05
12.078 830.181 WV2-SW05
32.741 829.781 WV2-MW01
20.104 847.370 WV2-SB01
11.555 856.683 WV2-SB02
87.853 928.022 WV4-SB01
75.495 928.203 WV4-SB02
90.751 927.475 WV4-SB03
94.952 898.438 WV1-HA11
03.418 894.143 WV1-HA12
88.191 936.029 PK NAIL
26.860 936.125 WV5-SB04
22.465 936.264 WV5-SB05
70.828 937.788 WV5-SB06
63.169 938.015 WV5-SB02
21.173 938.122 WV5-SB01
33.148 938.372 WV5-SB07
03.419 959.245 WV3-SB03
78.502 959.894 WV3-SB04
69.467 959.699 WV3-SB01
4.532 957.833 NAIL
11.617 952.753 WV BACK GROUND 1
65.299 940.821 WV BACK GROUND 2
70.666 934.898 WV BACK GROUND 3


MATCH TO SHEET 2
TEL & PED.
ES GASOLINE
SEL PUMP
REGULAR
GASOLINE
M.H.
D.I.-10
A.F.-3
8"VC2
M.H.-9
6"VC2
D.I.-11
940
M.H.
M.H.-R
9 6"VCP
3"ST
6"C.I.P.
M.H.-S
M.H. 2
3-2-38-C
EL 344.11
D.I.-61
112
TR-5
TR-4
D.I.H2
TEL PED.
F.F. ELEV.
337.11
130
4"CMP EGGOOKWN
2"ST
4"ST
6"C.I.P.
D.I.-62
2 1/2" ST.
6" V.C.P.
107
F.F. ELEV.
345.61
M.H.-T
D.I.-13
1 1/4"
F.F. ELEV.
349.32
N30°30'E
950
940
930
970
890
885
880
900
905
910
915
920
925


MATCH TO SHEET 2
F-3
340
850
860
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
950
955
960
965
970
975
980
985
990
995
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1005
1010
1015
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1025
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1060
1065

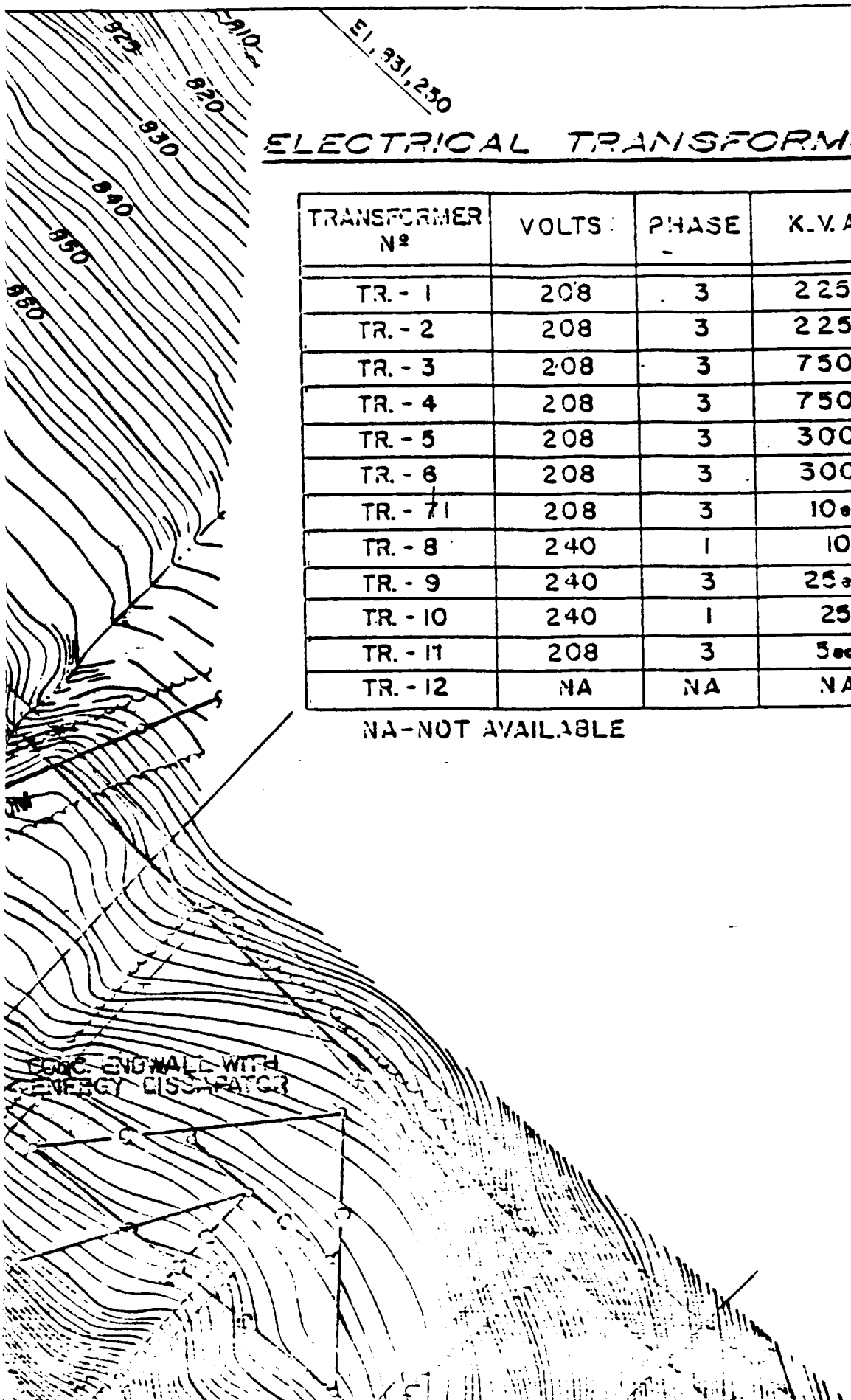


ELECTRICAL TRA

TRANSFORMER Nº	VOLTS
TR. - 1	208
TR. - 2	208
TR. - 3	208
TR. - 4	208
TR. - 5	208
TR. - 6	208
TR. - 71	208
TR. - 8	240
TR. - 9	240
TR. - 10	240
TR. - 11	208
TR. - 12	NA

NA-NOT AVAILABLE

(1)



ELECTRICAL TRANSFORMERS

TRANSFORMER Nº	VOLTS	PHASE	K.V.A.
TR. - 1	208	3	225t
TR. - 2	208	3	225t
TR. - 3	208	3	750t
TR. - 4	208	3	750t
TR. - 5	208	3	300t
TR. - 6	208	3	300t
TR. - 7	208	3	10ea
TR. - 8	240	1	10
TR. - 9	240	3	25ea
TR. - 10	240	1	25
TR. - 11	208	3	5ea
TR. - 12	NA	NA	NA

NA-NOT AVAILABLE

LEG

---C--- CON
—C— CON
—C— CON
—C— CO
—S— SA
—SD— ST
---E--- EL
—E— EL
—H— HE
—G— GA
—L— AI
—W— WA
—F— FI
—LF— LI
——— LE
—x— FE
PO
D.L. CR
M.H. MA
V.V. WA
L.P. LI
O.S. OI
F.H. FI
C.O. CL
G.V. GA
TR. TR
E.G. EA
SE
PE
GU

(8)

N500,000

E1,831,500

ANSFORMERS

PHASE	K.V.A.
3	225t
3	225t
3	750t
3	750t
3	300t
3	300t
3	10ea
1	10
3	25ea
1	25
3	5ea
NA	NA

LEGEND

--C--	COMMUNICATION (UNDERGROUND)
—C—	COMMUNICATION (ABOVE GRCUND)
—C—	COMMUNICATION (LEASED UNDERGRCUND)
—·C—	COMMUNICATION (LEASED ABOVE GROUND)
—S—	SANITARY SEWERS
—SD—	STORM DRAIN
---E---	ELECTRICAL (UNDERGROUND)
—E—	ELECTRICAL (ABOVE GROUND)
—H—	HEATING
—G—	GAS
—L—	AIRFIELD LIGHTING
—W—	WATER
—F—	FIRE ALARM
—LF—	LIQUID FUEL
———	LEASED AREA
—x—	FENCE
⌀	POLE
D.I.	DROP INLET
M.H.	MANHOLE
W.V.	WATER VALVE
L.P.	LIGHT POLE
O.S.	OIL SEPARATOR
F.H.	FIRE HYDRANT
C.O.	CLEAN OUT
G.V.	GAS VALVE
TR.	TRANSFORMER
E.G.	EMERGENCY GENERATOR
▲	SECURITY LIGHTING
▣	PEDESTAL
———	ABANDONED UTILITY
—I—I—	GUARD RAIL

SANITARY SE

MANHOLE Nº	TOP ELEV.	
M.H.-A	831.83	
M.H.-B	856.74	
M.H.	863.5	
M.H.	869.20	
M.H.-E	875.27	
M.H.-F	50	
M.H.-	50	
M.H.-H	3.26	
M.H.-I	885.27	
M.H.-J	885.52	
M.H.-K	909.52	
M.H.-L	884.31	
M.H.-M	836.94	

9

E 1,831,500

N 99,750

N 99,500

END

IUNICATION (UNDERGROUND)
MUNICATION (ABOVE GRCUND)
IUNICATION (LEASED UNDERGRCUND)
MUNICATION (LEASED ABOVE GROUND)
TARY SEWERS
M DRAIN
CTRICAL (UNDERGROUND)
CTRICAL (ABOVE GROUND)
TING

FIELD LIGHTING
ER
ALARM
IID FUEL
SED AREA
DE
E
P INLET
HOLE
ER VALVE
T POLE
SEPARATOR
E HYDRANT
AN OUT
VALVE
NSFORMER
RGENCY GENERATOR
URITY LIGHTING
ESTAL
NDONED UTILITY
RD RAIL

SANITARY SEWERS

MANHOLE Nº	TOP ELEV.	INVERT ELEV.
M.H.-A	831.83	822.08
M.H.-B	856.74	850.50
M.H.-C	863.5[illegible]	849.00
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	[illegible]50	871.15
M.H.-G	[illegible]50	873.00
M.H.-H	[illegible]3.26	872.40
M.H.-I	865.27	[illegible]30.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.92
M.H.-L	934.31	[illegible]28.00
M.H.-M	936.24	930.44

(10)

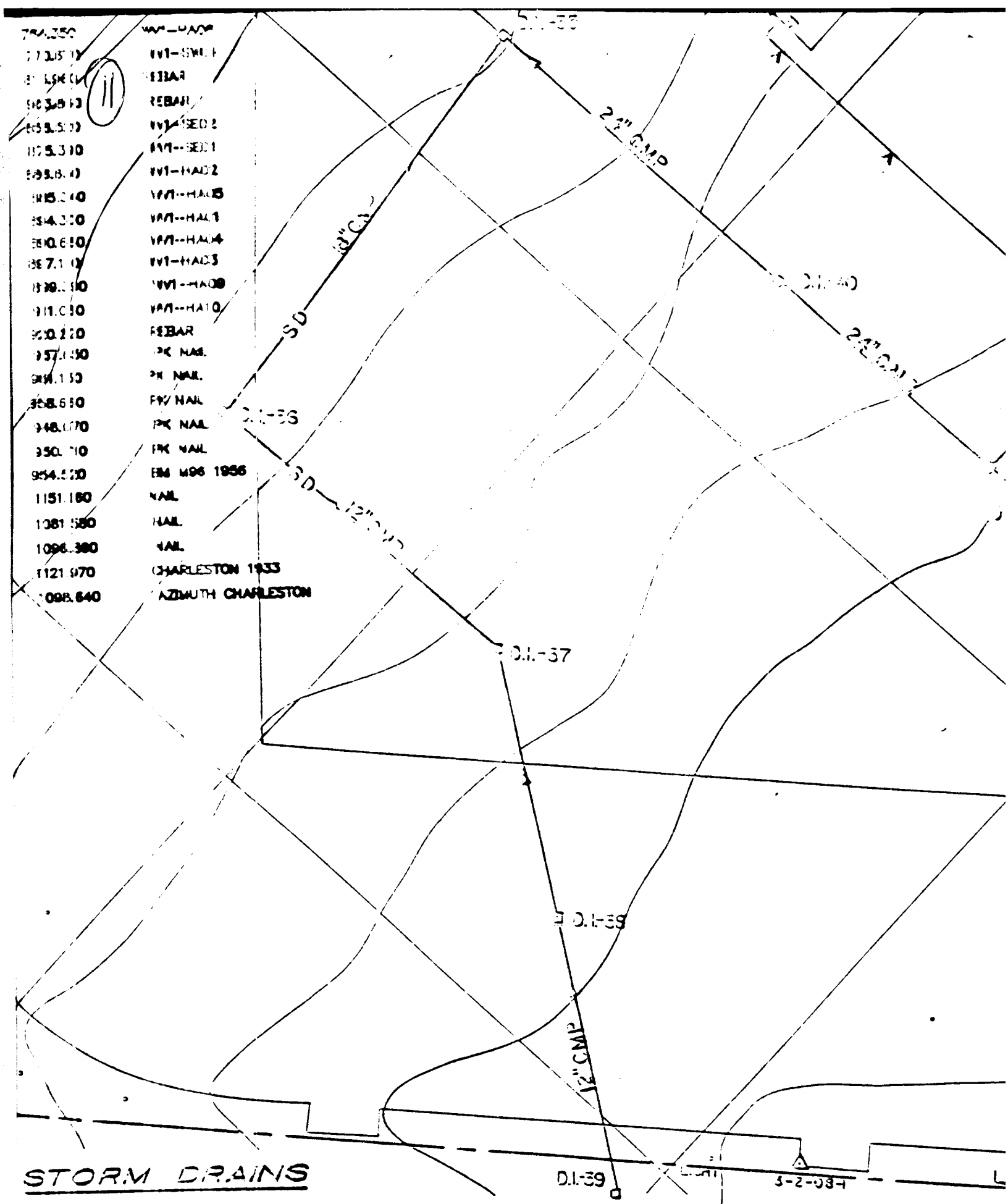
33	500557.896	1831075.228	770.670	WV1–SW01
34	500448.709	1831120.745	813.960	REBAR
35	500365.150	1830875.076	963.860	REBAR
36	500738.017	1830936.731	858.520	WV1–SE02
37	500773.720	1830906.915	875.390	WV1–SE01
38	500811.870	1830919.286	886.630	WV1–HA02
39	500790.033	1830890.859	885.340	WV1–HA05
40	500788.693	1830872.160	894.300	WV1–HA01
41	500798.049	1830877.957	890.660	WV1–HA04
42	500821.412	1830886.246	897.110	WV1–HA03
43	500823.643	1830863.224	899.390	WV1–HA09
44	500889.850	1830857.509	911.080	WV1–HA10
45	501089.498	1830859.172	920.220	REBAR
46	499385.838	1830548.978	957.650	PK NAIL
47	499518.558	1829074.081	961.130	PK NAIL
48	499425.110	1828848.821	958.660	PK NAIL
49	499501.938	1828683.324	948.070	PK NAIL
50	499597.498	1828816.397	950.710	PK NAIL
51	499593.887	1828891.185	954.520	BM M96 1956
52	494735.042	1828262.182	1151.160	NAIL
53	493087.792	1824890.164	1081.580	NAIL
54	492852.916	1825275.203	1096.880	NAIL
55	492528.120	1825457.890	1121.970	CHARLESTON 1933
56	492425.457	1825398.924	1098.640	AZIMUTH CHARLESTON

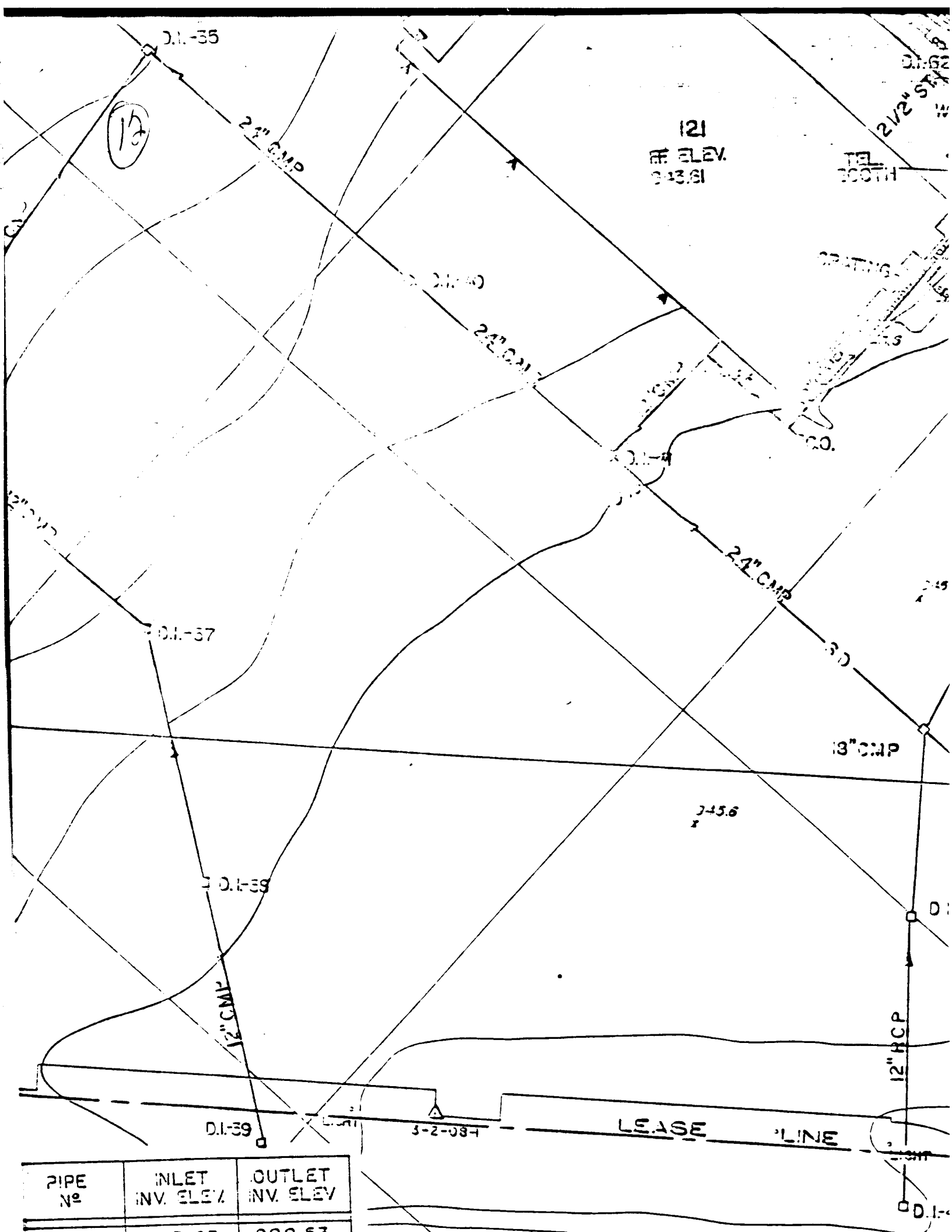
El. 830

El. 829,730

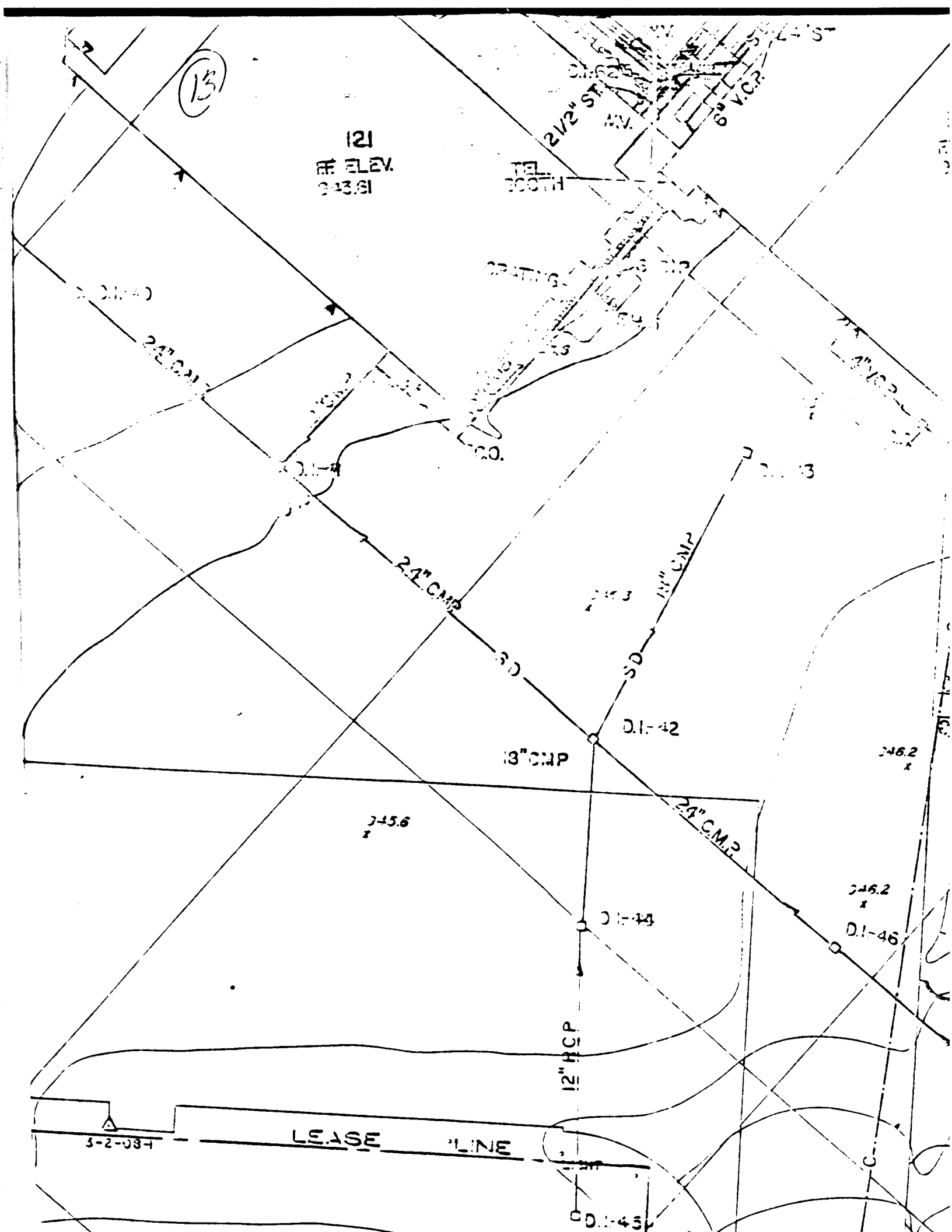
STORM DRAINS

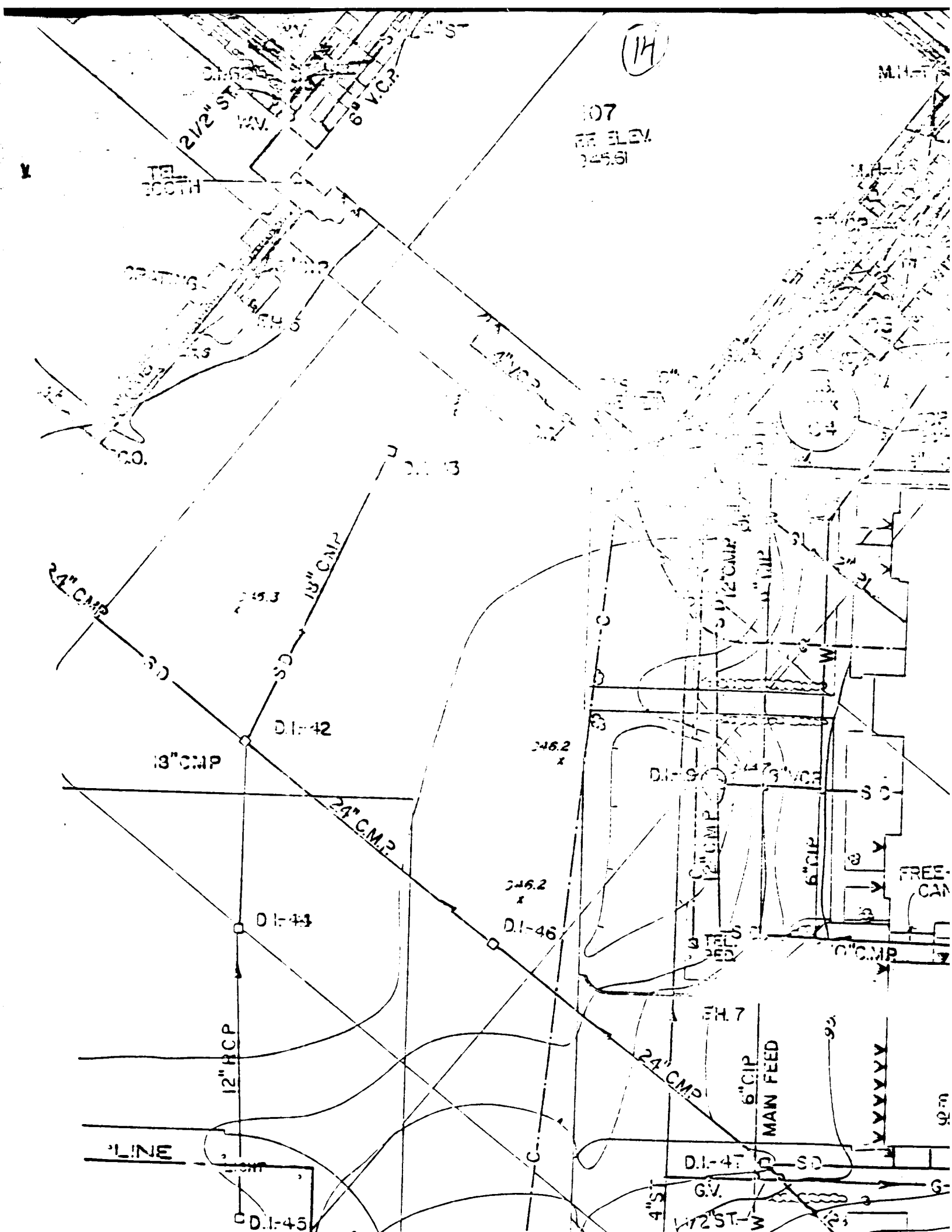
DROP INLET Nº	TOP ELEV.	INVERT ELEV.	DROP INLET Nº	TOP ELEV.	INVERT ELEV.	PIPE Nº
D.I. - 1	804.50	803.83	D.I. - 33	936.04	925.95	P -

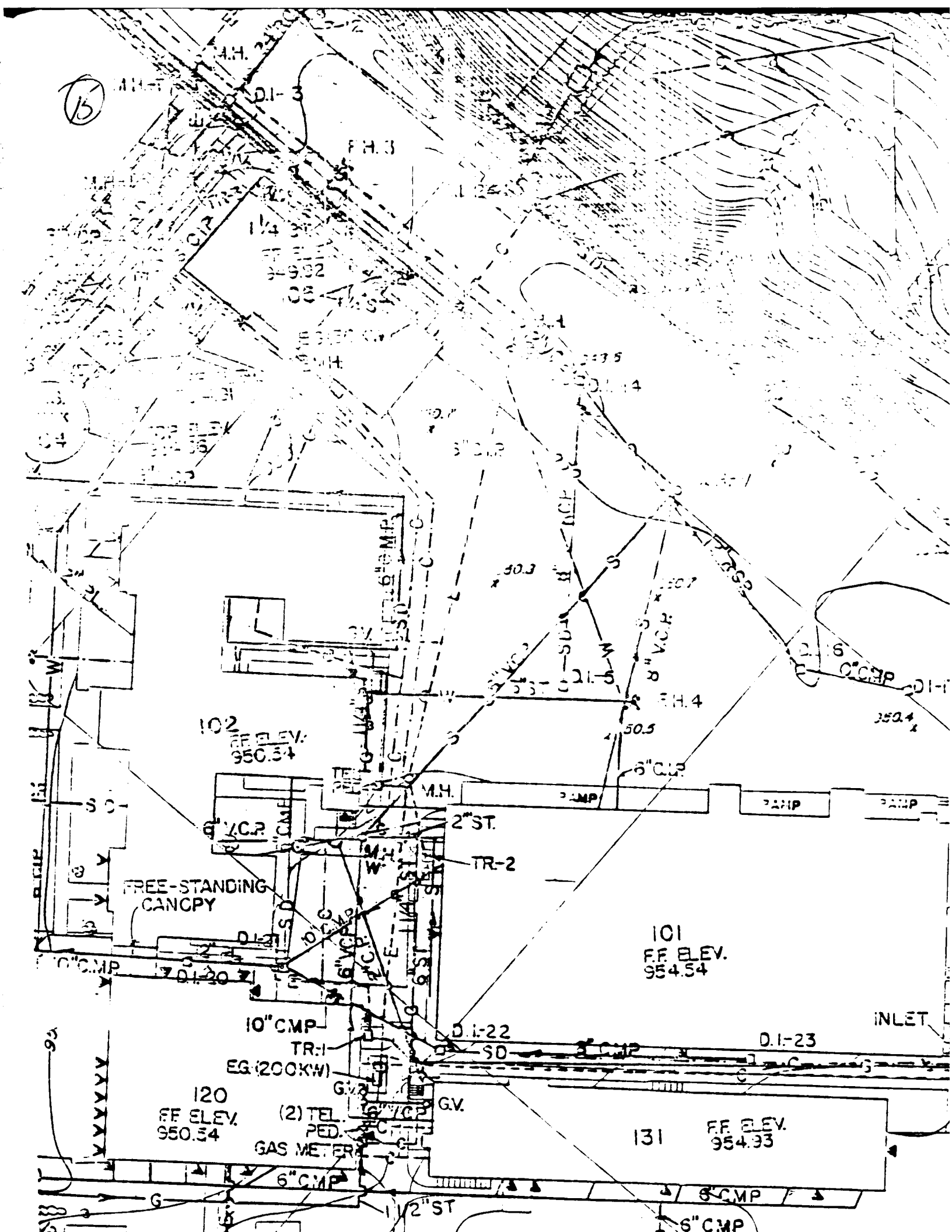

11
REBAR
REBAR
REBAR

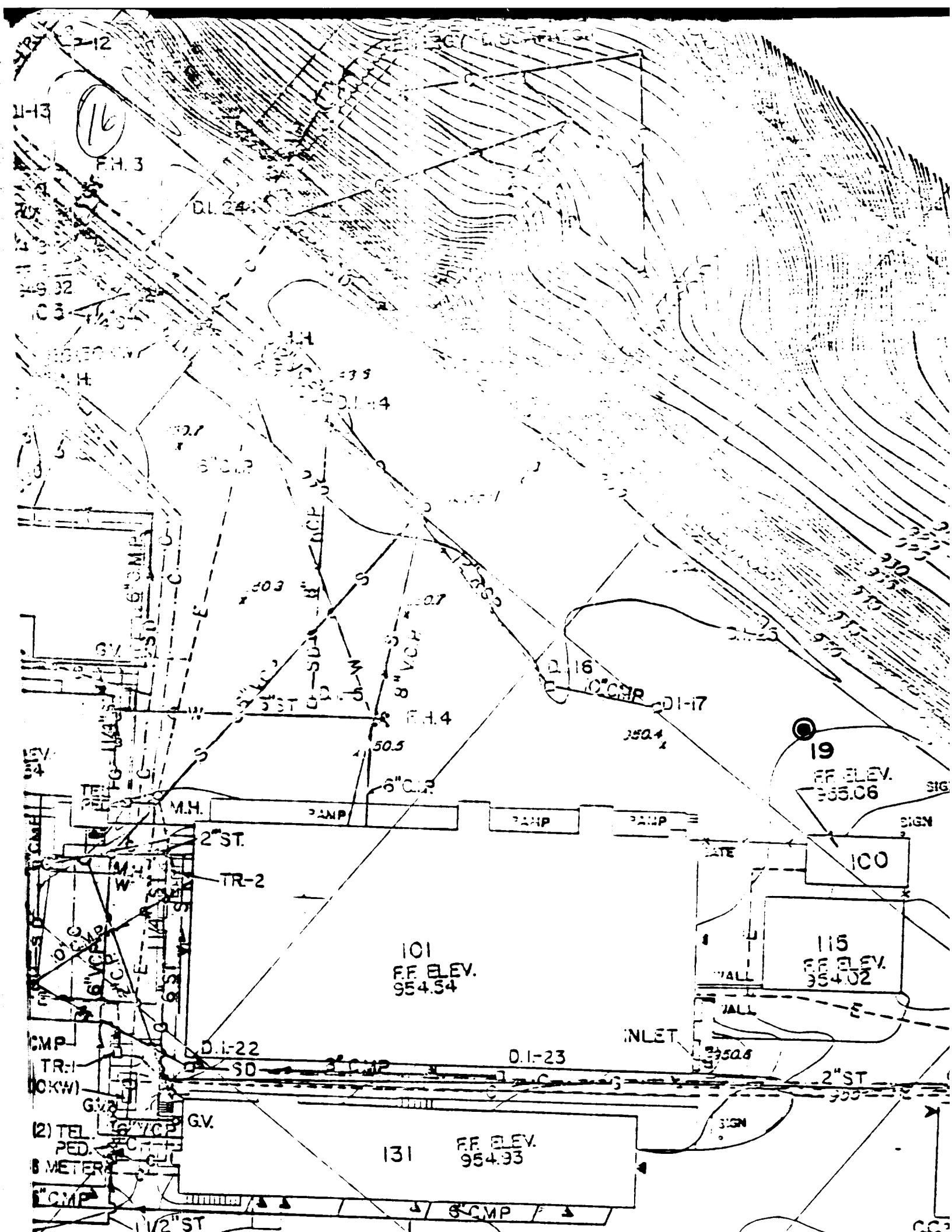


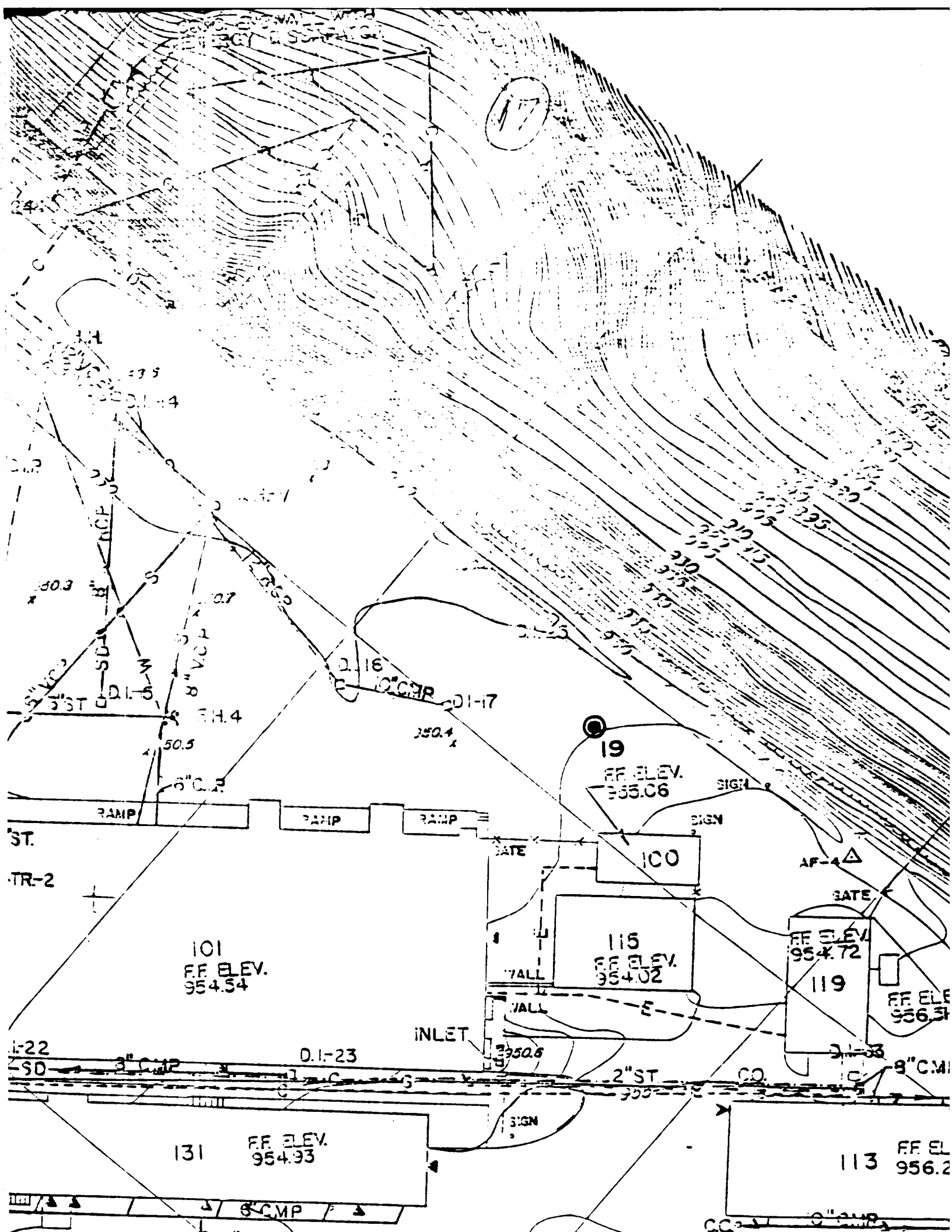
PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV

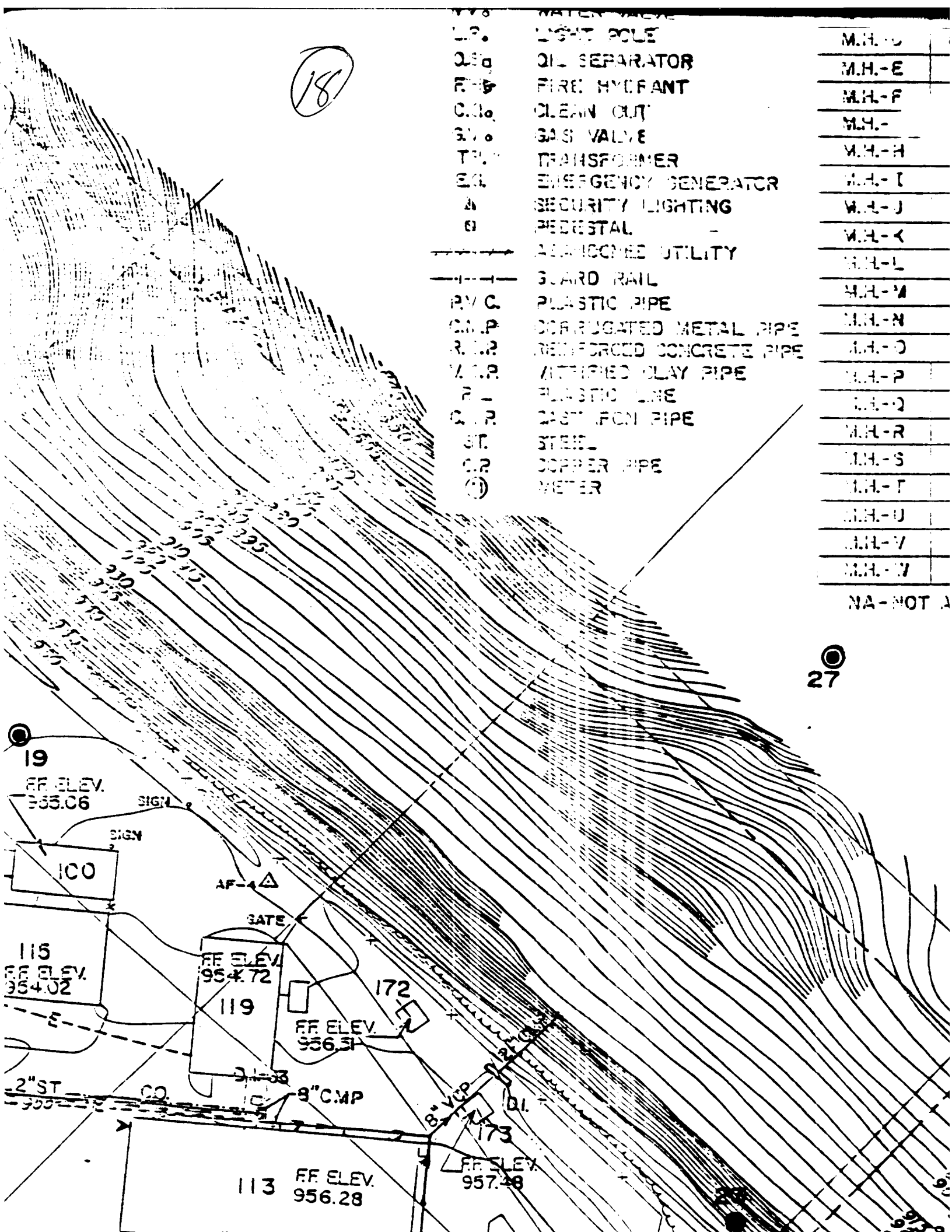

121
RE ELEV.
TEL BOOTH
2 1/2" ST.
6" V.C.P.
24" CMP
18" CMP
D.I.-42
13" CMP
24" C.M.P.
D.I.-44
D.I.-46
12" RCP
LEASE LINE
3-2-03-1
D.I.-45
245.6
246.2


14
2 1/2" ST.
6" V.C.P.
TEL BOOTH
107
RR ELEV
245.61
24" CMP
18" CMP
D.I-42
13" CMP
D.I-41
D.I-46
12" RCP
24" CMP
6" CIP
MAIN FEED
D.I-45
D.I-47
G.V.
4" ST.
1/2" ST.
246.2
245.3


15
M.H.
D.I-3
F.H.3
1¼
6"CMP
D.I-4
6"CMP
D.I-5
F.H.4
6"CMP
D.I-6
102
F.F. ELEV.
950.34
M.H.
2"ST.
TR-2
FREE-STANDING
CANOPY
D.I-21
D.I-20
6"CMP
10"CMP
TR-1
EG (200KW)
120
F.F. ELEV.
950.54
(2) TEL. PED.
GAS METER
G.V.
6"CMP
1½"ST
101
F.F. ELEV.
954.54
D.I-22
SD
D.I-23
INLET
131
F.F. ELEV.
954.93
6"CMP
6"CMP


16
F.H. 3
D.I. 24
D.I-4
F.H.4
D.I-6
D.I-7
19
F.F. ELEV.
955.06
ICO
101
F.F. ELEV.
954.54
115
F.F. ELEV.
954.02
131
F.F. ELEV.
954.93
INLET
D.I-22
D.I-23
2"ST.
TR-2
TR-1
M.H.
PAVP
G.V.
TEL. PED.
METER
6"C.M.P.
8"C.M.P.
8"V.C.P.
6"V.C.P.
SIGN
WALL

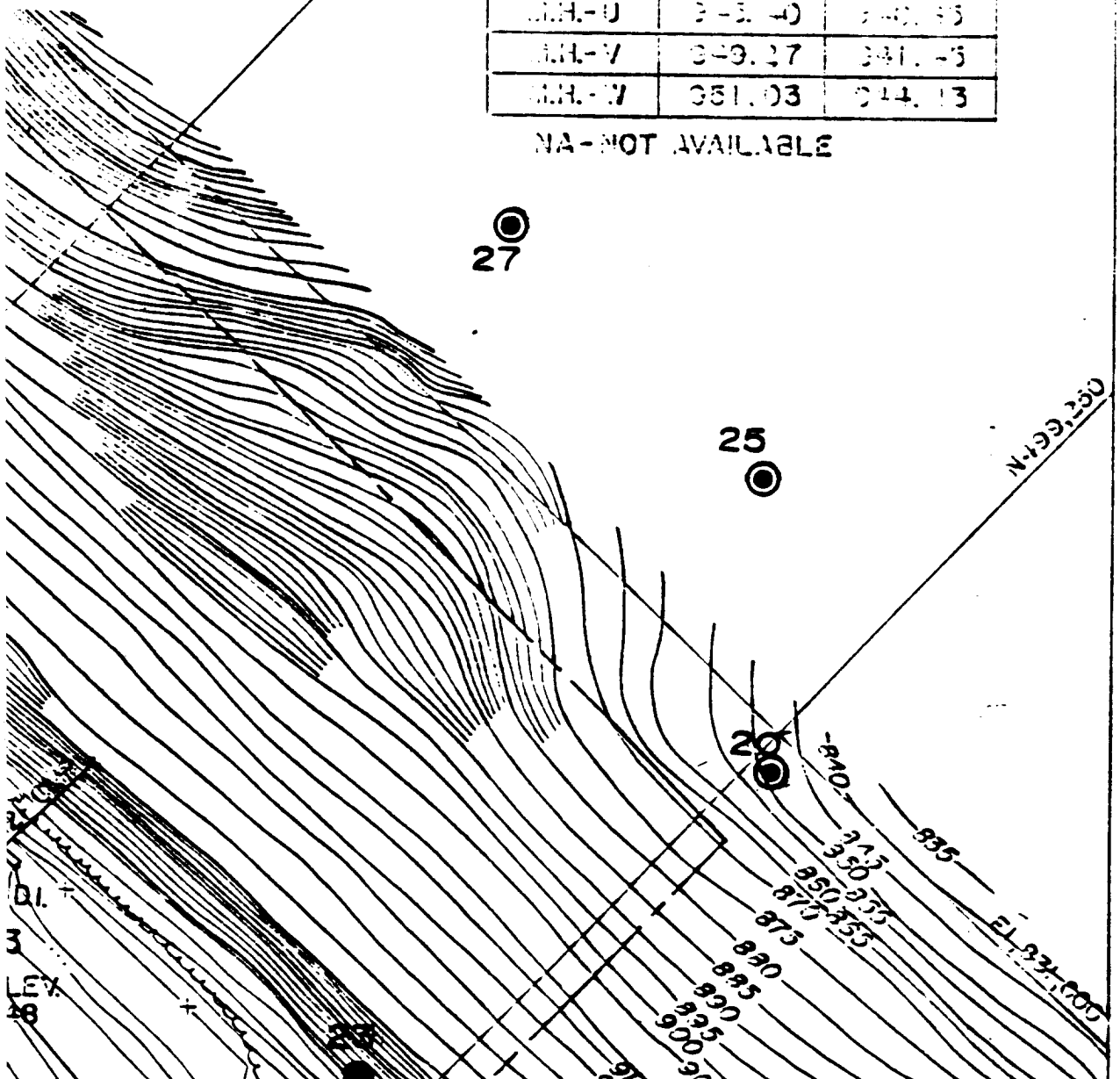

17
D.I-4
D.I-5
D.I-6
D.I-7
D.I-16
D.I-17
E.H.4
50.5
6"C.M.P.
RAMP
RAMP
RAMP
ST.
TR-2
101
F.F. ELEV.
954.54
19
F.F. ELEV.
955.06
SIGN
SIGN
GATE
100
AF-4
GATE
115
F.F. ELEV.
954.02
F.F. ELEV.
954.72
119
WALL
WALL
INLET
950.6
D.I-22
D.I-23
3"C.M.P.
2"ST
CO.
8"C.M.P.
SIGN
131
F.F. ELEV.
954.93
113
F.F. EL
956.2
8"C.M.P.
CC

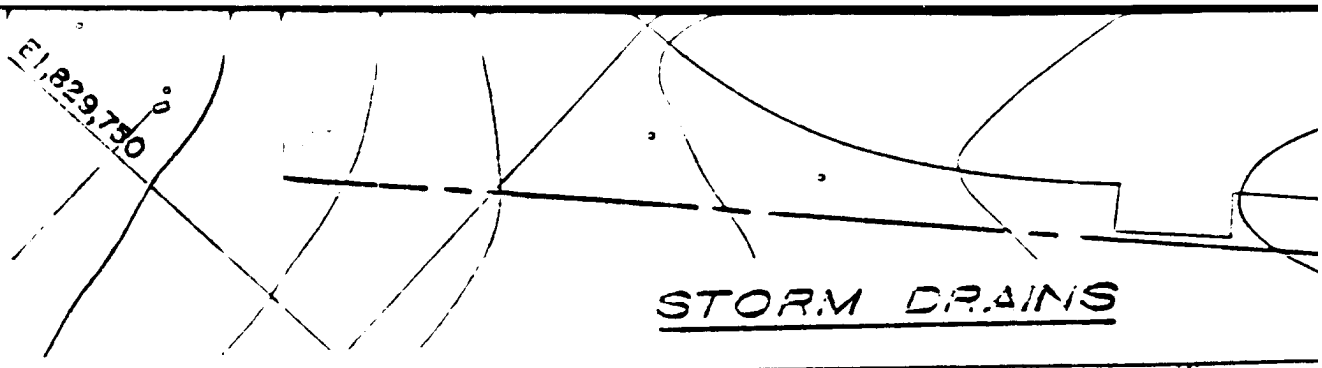

18
L.P. LIGHT POLE
O.S. OIL SEPARATOR
F.H. FIRE HYDRANT
C.O. CLEAN OUT
G.V. GAS VALVE
T.F. TRANSFORMER
E.G. EMERGENCY GENERATOR
SECURITY LIGHTING
PEDESTAL
UNDERGROUND UTILITY
GUARD RAIL
P.V.C. PLASTIC PIPE
C.M.P. CORRUGATED METAL PIPE
R.C.P. REINFORCED CONCRETE PIPE
V.C.P. VITRIFIED CLAY PIPE
P.L. PLASTIC LINE
C.I.P. CAST IRON PIPE
ST. STEEL
C.P. COPPER PIPE
METER
M.H.-C
M.H.-E
M.H.-F
M.H.-
M.H.-H
M.H.-I
M.H.-J
M.H.-K
M.H.-L
M.H.-M
M.H.-N
M.H.-O
M.H.-P
M.H.-Q
M.H.-R
M.H.-S
M.H.-T
M.H.-U
M.H.-V
M.H.-W
NA-NOT A
27
19
FF ELEV. 965.06
SIGN
SIGN
ICO
AF-4
GATE
115
FF ELEV. 964.02
FF ELEV. 964.72
119
172
FF ELEV. 956.31
2"ST
CO
8"C.M.P
8" VCP
D.I.
173
FF ELEV. 957.28
113
FF ELEV. 956.28

WATER VALVE
LIGHT POLE
OIL SEPARATOR
FIRE HYDRANT
CLEAN OUT
GAS VALVE
TRANSFORMER
EMERGENCY GENERATOR
SECURITY LIGHTING
PEDESTAL
ABANDONED UTILITY
GUARD RAIL
PLASTIC PIPE
CORRUGATED METAL PIPE
REINFORCED CONCRETE PIPE
VITRIFIED CLAY PIPE
PLASTIC LINE
CAST IRON PIPE
STEEL
COPPER PIPE
METER

M.H.-	868.61	860.55
M.H.-D	869.20	861.40
M.H.-E	875.27	869.40
M.H.-F	880	871.16
M.H.-	80	873.00
M.H.-H	878.26	872.40
M.H.-I	885.27	880.40
M.H.-J	895.52	890.90
M.H.-K	909.52	904.92
M.H.-L	924.31	919.00
M.H.-M	936.94	930.44
M.H.-N	939.66	932.20
M.H.-O	939.[illegible]	932.00
M.H.-P	NA	NA
M.H.-Q	939.88	933.[illegible]
M.H.-R	941.86	935.86
M.H.-S	942.86	937.[illegible]
M.H.-T	945.26	938.96
M.H.-U	948.40	940.96
M.H.-V	949.27	941.[illegible]
M.H.-W	951.03	944.13

NA-NOT AVAILABLE





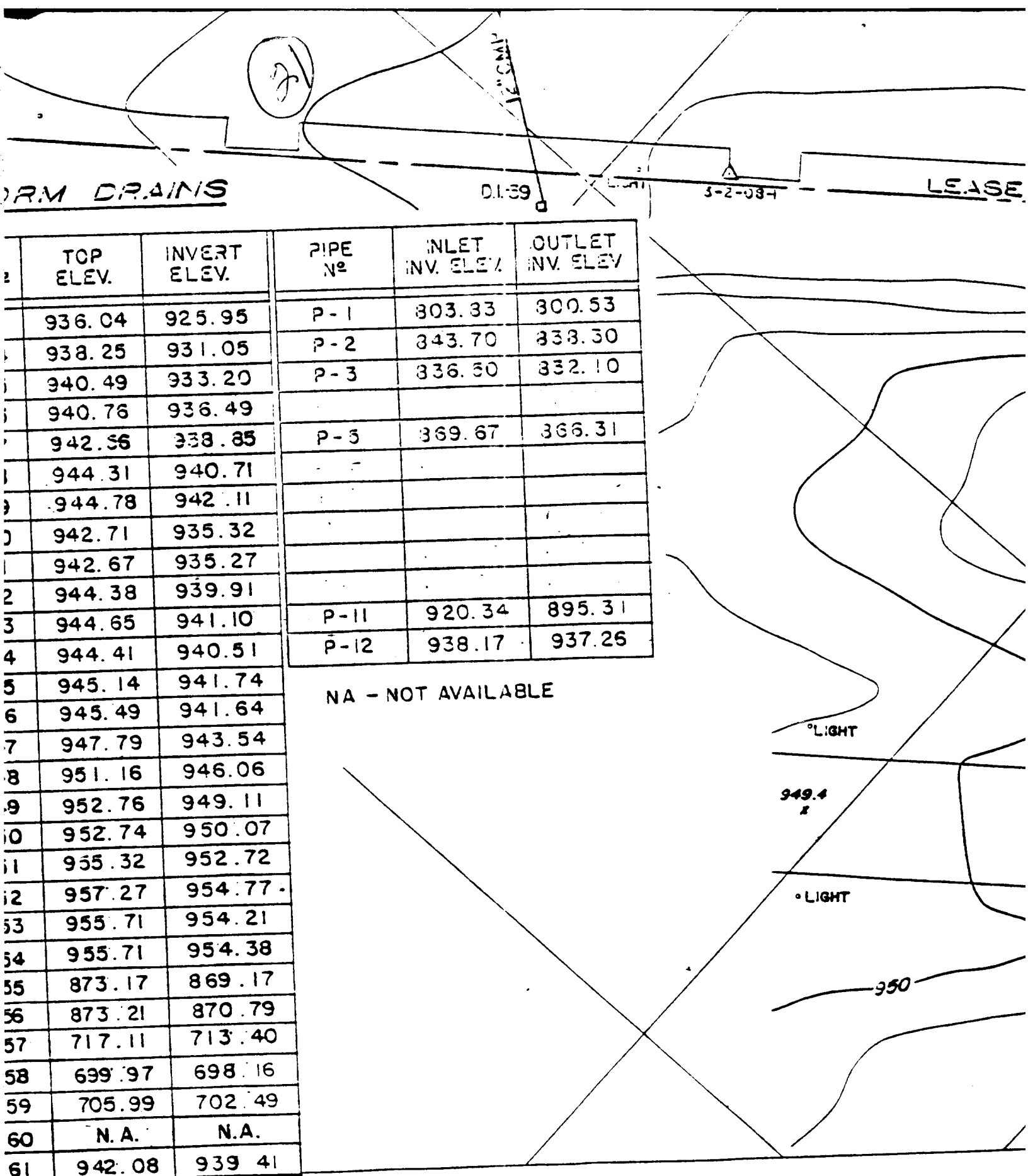
STORM DRAINS

DROP INLET Nº	TOP ELEV.	INVERT ELEV.
D.I.-1	804.50	803.83
D.I.-2	923.34	920.34
D.I.-3	933.20	922.20
D.I.-4	931.68	922.18
D.I.-5	932.31	923.81
D.I.-6	935.87	931.67
D.I.-7	937.07	930.57
D.I.-8	937.24	933.24
D.I.-9	936.30	931.90
D.I.-10	937.02	932.82
D.I.-11	939.13	934.68
D.I.-12	943.03	938.58
D.I.-13	945.42	938.17
D.I.-14	948.22	943.92
D.I.-15	949.79	947.69
D.I.-16	949.49	946.99
D.I.-17	949.96	947.46
D.I.-18	944.64	938.64
D.I.-19	944.21	940.11
D.I.-20	949.73	947.94
D.I.-21	950.61	948.11
D.I.-22	951.43	949.61
D.I.-23	952.93	951.43
D.I.-24	947.23	942.45
D.I.-25	948.56	946.46
D.I.-26	933.59	923.86
D.I.-27	927.56	925.14
D.I.-28	939.70	937.03
D.I.-29	942.17	936.84
D.I.-30	940.22	938.20
D.I.-31	940.14	938.14
D.I.-32	940.37	938.19

DROP INLET Nº	TOP ELEV.	INVERT ELEV.
D.I.-33	936.04	925.95
D.I.-34	938.25	931.05
D.I.-35	940.49	933.20
D.I.-36	940.76	936.49
D.I.-37	942.56	938.85
D.I.-38	944.31	940.71
D.I.-39	944.78	942.11
D.I.-40	942.71	935.32
D.I.-41	942.67	935.27
D.I.-42	944.38	939.91
D.I.-43	944.65	941.10
D.I.-44	944.41	940.51
D.I.-45	945.14	941.74
D.I.-46	945.49	941.64
D.I.-47	947.79	943.54
D.I.-48	951.16	946.06
D.I.-49	952.76	949.11
D.I.-50	952.74	950.07
D.I.-51	955.32	952.72
D.I.-52	957.27	954.77
D.I.-53	955.71	954.21
D.I.-54	955.71	954.38
D.I.-55	873.17	869.17
D.I.-56	873.21	870.79
D.I.-57	717.11	713.40
D.I.-58	699.97	698.16
D.I.-59	705.99	702.49
D.I.-60	N.A.	N.A.
D.I. 61	942.08	939 41
D.I.-62	943.56	943.23
D.I.-63	954.40	952.22
D.I.-64	953.93	952.43
D.I-65	931.39	926.39

PIPE Nº
P-1
P-2
P-3
P-5
P-1
P-1

NA

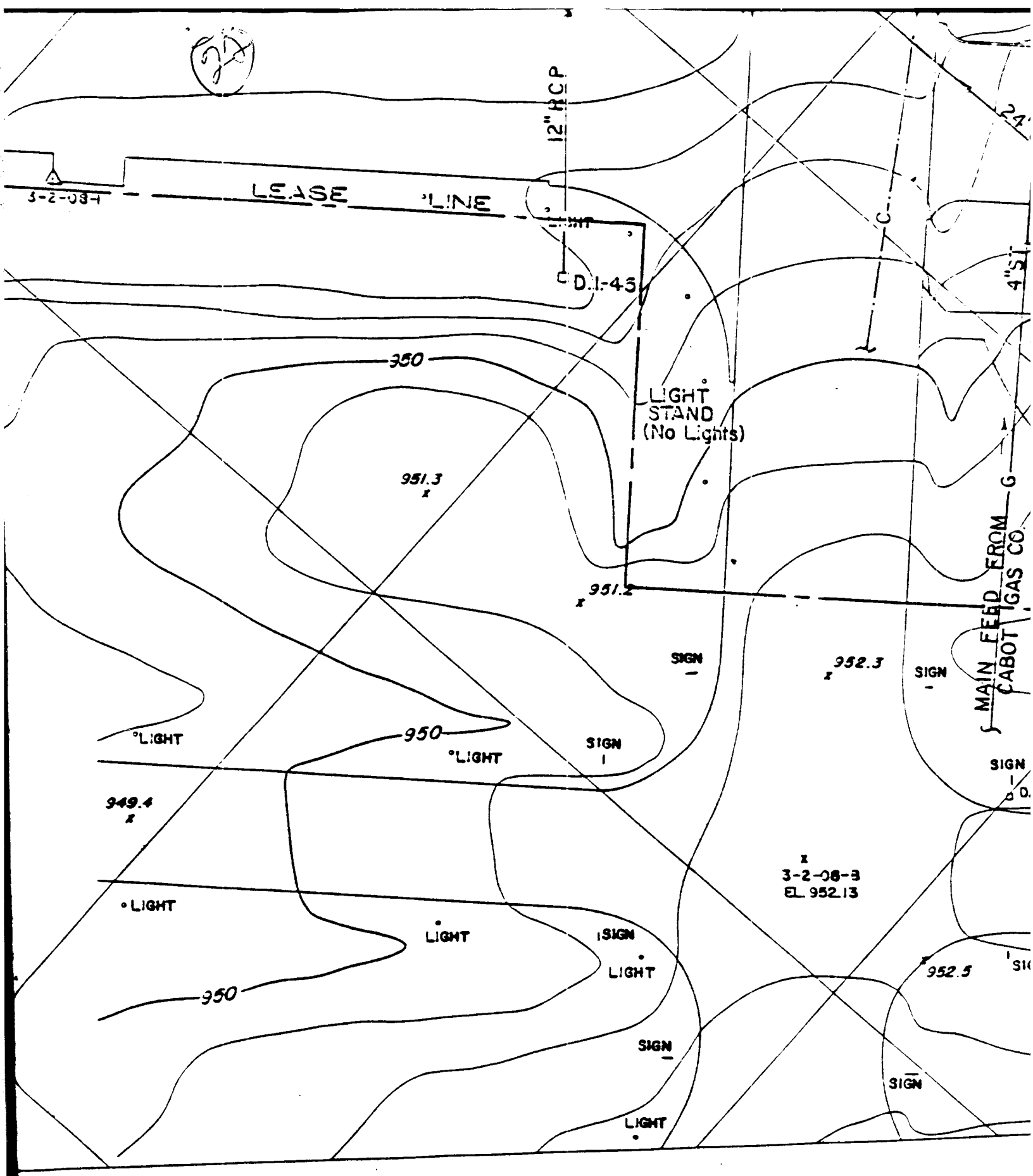


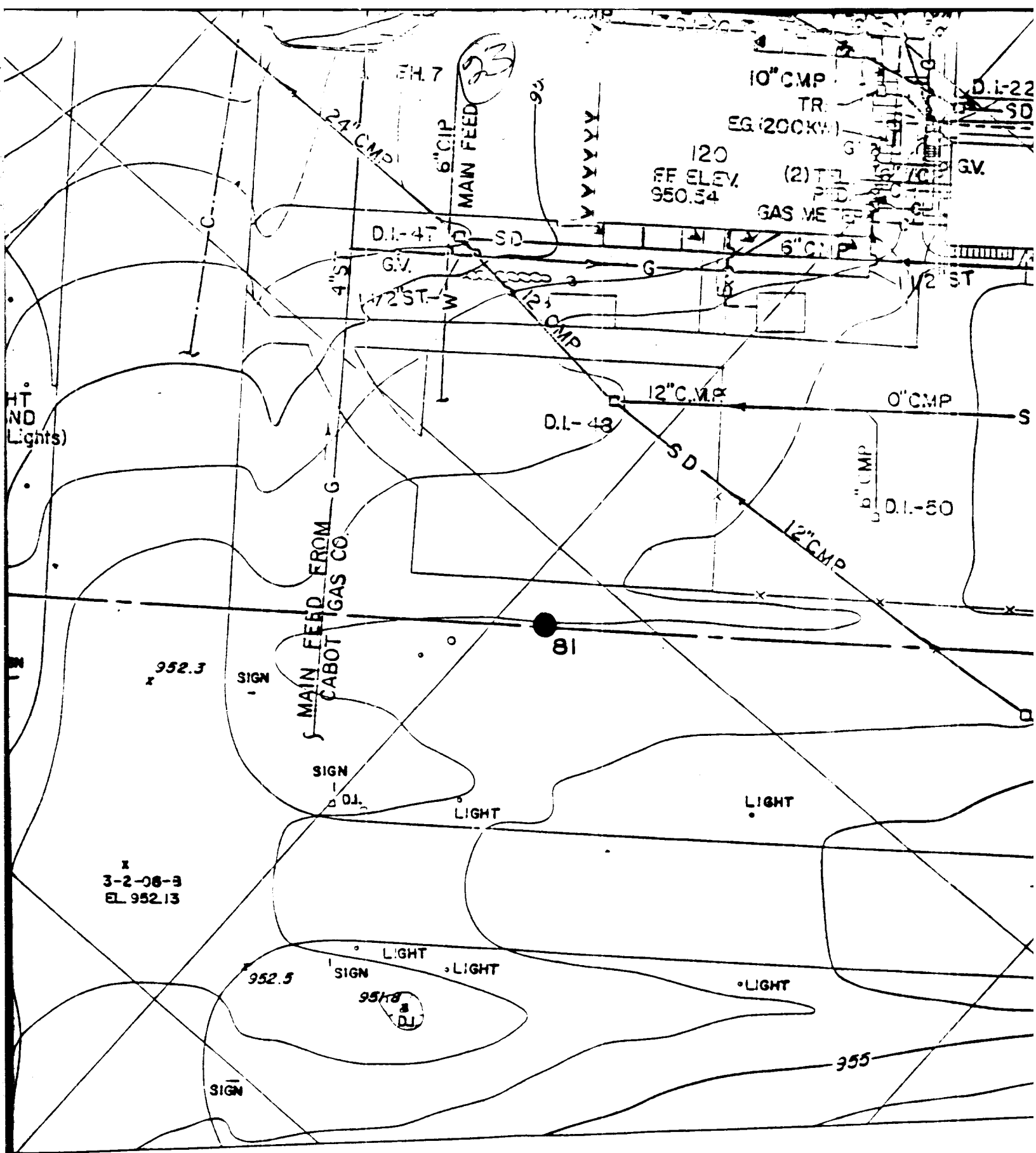
ORM DRAINS

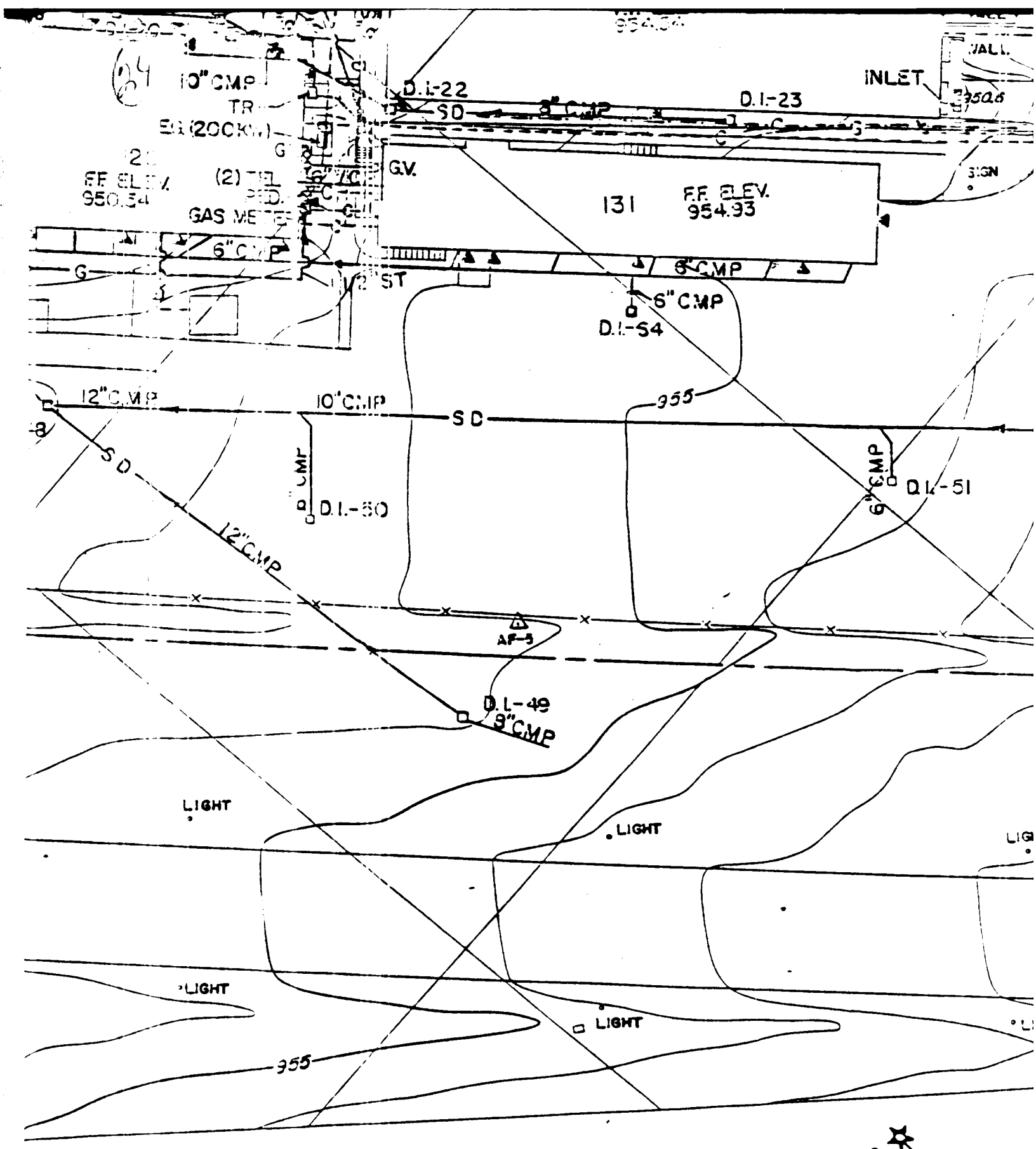
	TOP ELEV.	INVERT ELEV.
	936.04	925.95
	938.25	931.05
	940.49	933.20
	940.76	936.49
	942.56	938.85
	944.31	940.71
	944.78	942.11
	942.71	935.32
	942.67	935.27
2	944.38	939.91
3	944.65	941.10
4	944.41	940.51
5	945.14	941.74
6	945.49	941.64
7	947.79	943.54
8	951.16	946.06
9	952.76	949.11
0	952.74	950.07
1	955.32	952.72
2	957.27	954.77
53	955.71	954.21
54	955.71	954.38
55	873.17	869.17
56	873.21	870.79
57	717.11	713.40
58	699.97	698.16
59	705.99	702.49
60	N.A.	N.A.
61	942.08	939 41
62	943.56	943.23
63	954.40	952.22
64	953.93	952.43
65	931.39	926.39

PIPE Nº	INLET INV. ELEV.	OUTLET INV. ELEV
P-1	803.33	800.53
P-2	843.70	838.30
P-3	836.60	832.10
P-5	869.67	866.31
P-11	920.34	895.31
P-12	938.17	937.26

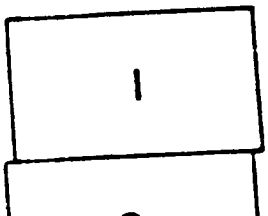
NA - NOT AVAILABLE

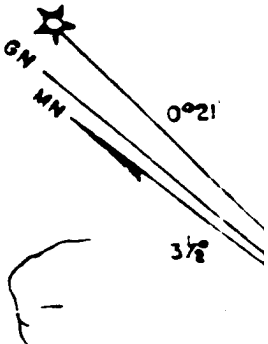

12" RCP
LEASE LINE
D.I-45
350
LIGHT STAND (No Lights)
951.3
951.2
MAIN FEED FROM CABOT GAS CO.
SIGN
952.3
SIGN
LIGHT
950
LIGHT
SIGN
949.4
3-2-08-3
EL 952.13
LIGHT
LIGHT
SIGN
LIGHT
952.5
950
SIGN
SIGN
LIGHT

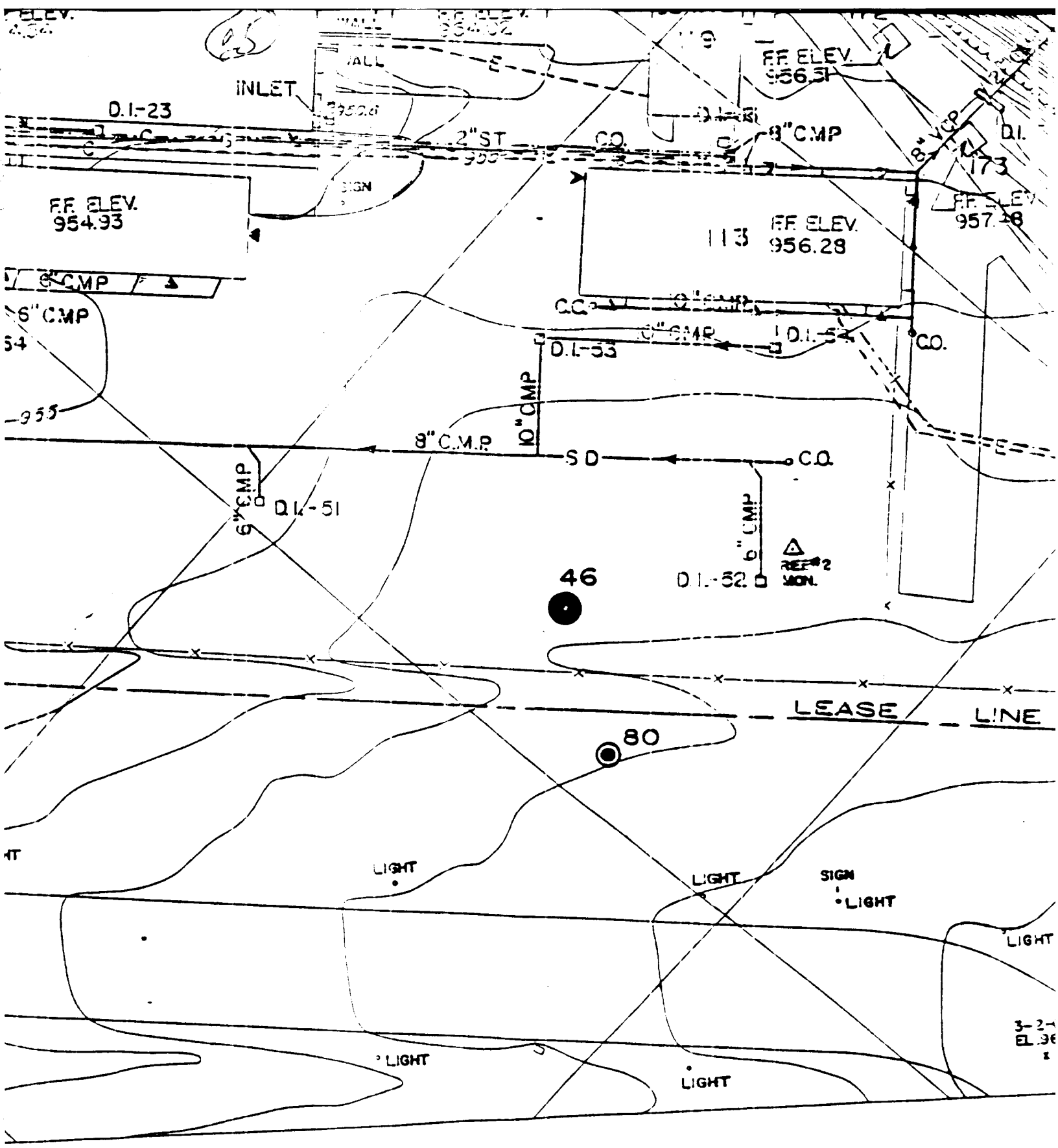

EH. 7
24" CMP
6" CIP
MAIN FEED
10" CMP
TR
EG (200KW)
120
FF ELEV.
950.54
(2) TEL
PED
GAS METER
G.V.
D.I.-22
SD
D.I.-47
SD
G.V.
4" ST
12" ST
12" CMP
12" C.M.P.
0" CMP
D.I.-48
SD
12" CMP
D.I.-50
MAIN FEED FROM CABOT GAS CO.
81
952.3
SIGN
SIGN
D.I.
LIGHT
LIGHT
3-2-08-B
EL. 952.13
LIGHT
952.5
SIGN
LIGHT
LIGHT
955
SIGN
INDEX TO SHE
1

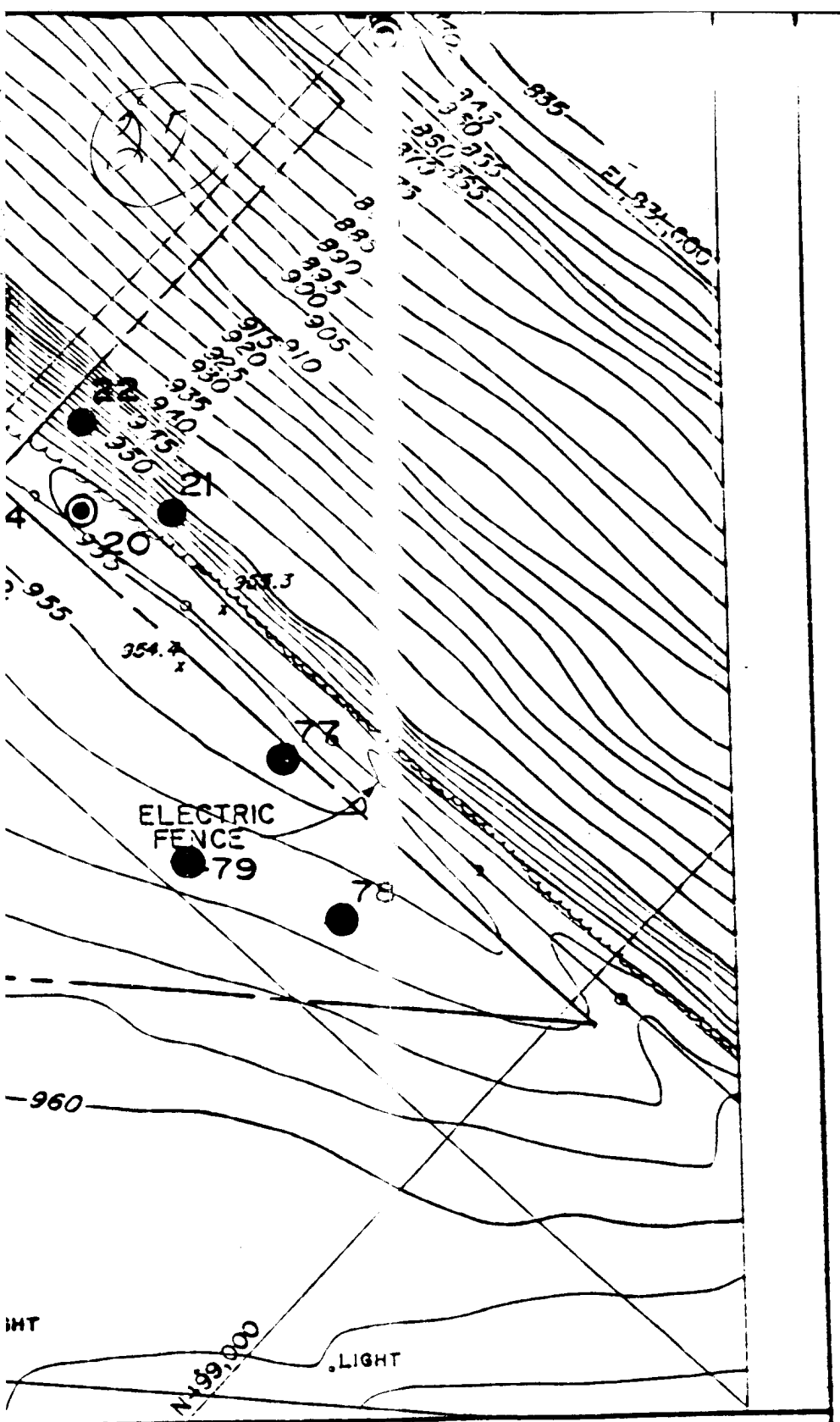


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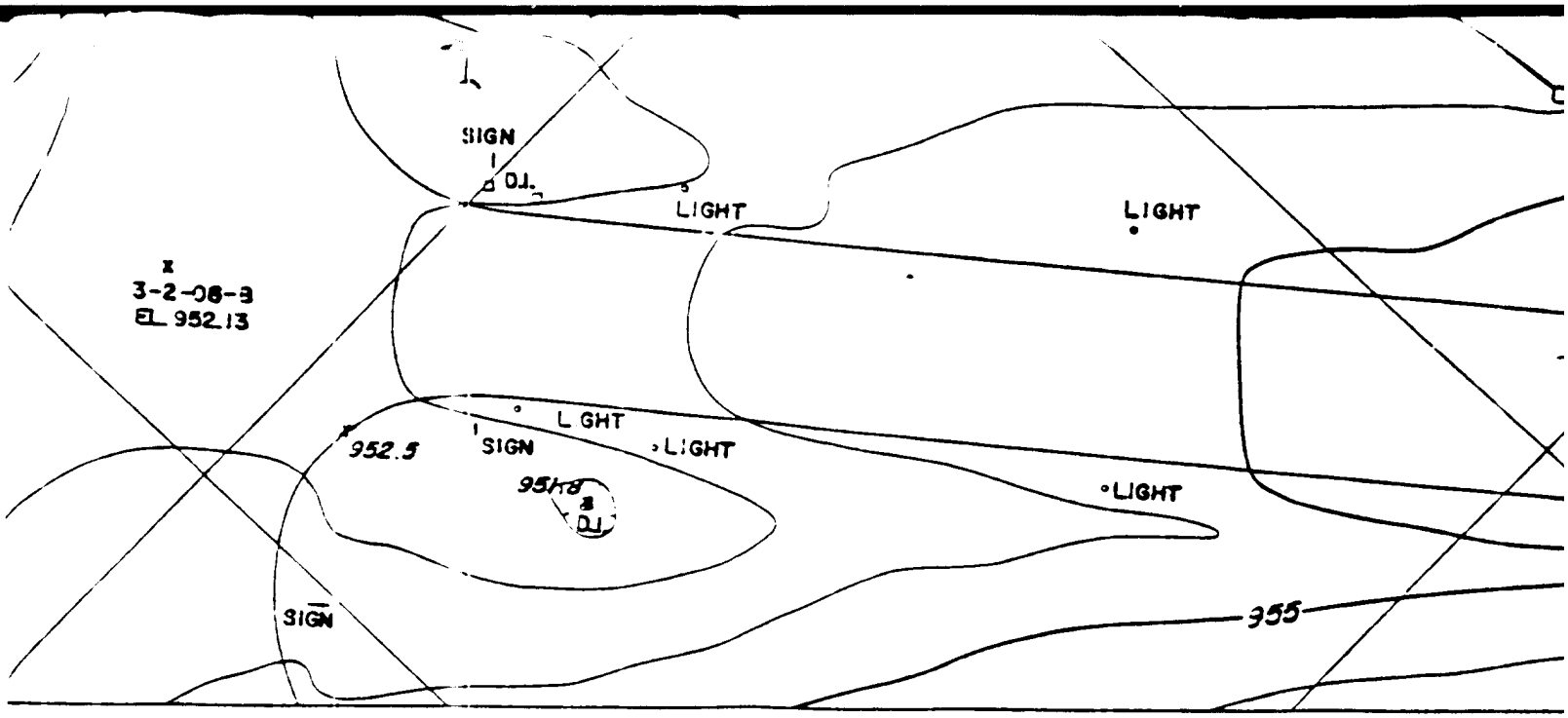



INLET
D.I-23
2"ST
C.O.
8"C.M.P
8" V.C.P
D.I.
173
F.F. ELEV.
954.93
F.F. ELEV.
956.31
F.F. ELEV.
956.28
113
F.F. ELEV.
957.18
6"C.M.P
C.O.
D.I-53
10"C.M.P
8"C.M.P
S D
C.O.
6"C.M.P
D.I-51
6"C.M.P
D.I-52
REF. MON.
46
LEASE LINE
80
LIGHT
LIGHT
SIGN
LIGHT
LIGHT
LIGHT
LIGHT
GN
MN
0°21'
3½°



NATIONAL GUARD BUREAU
WASHINGTON D. C.

AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA
A.N.G. BASE
TOPOGRAPHIC MAP

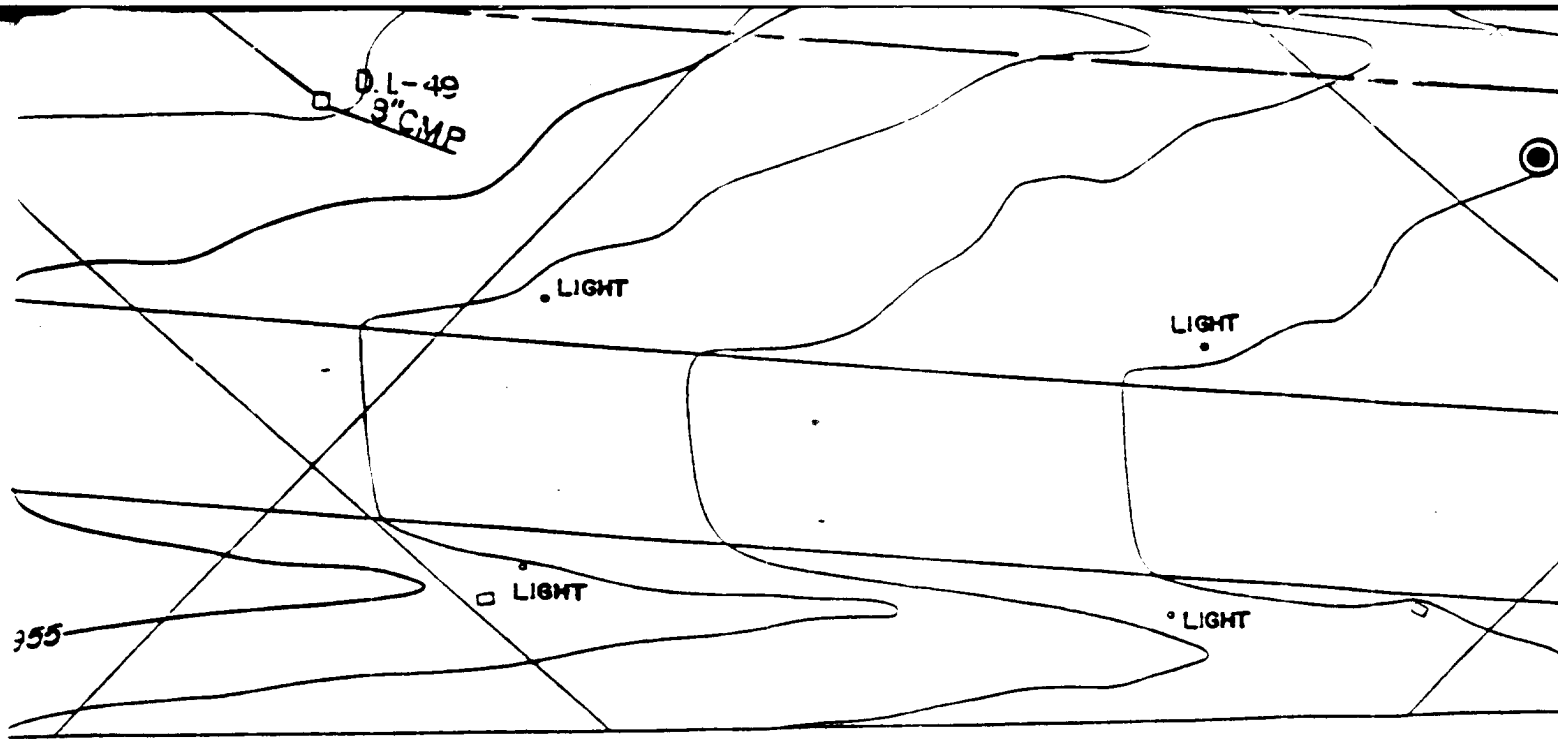


28

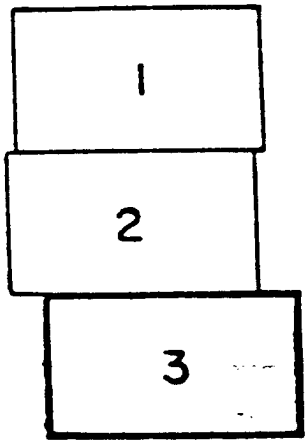
INDEX TO SHEE

1
2
3

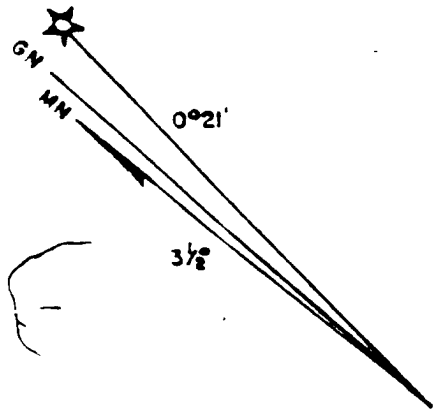
GRID BASED ON WEST VIRGINIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) 1927 N.A. DATUM. VERTICAL CONTROL BASED ON 1929 MEAN SEA LEVEL DATUM.



INDEX TO SHEETS

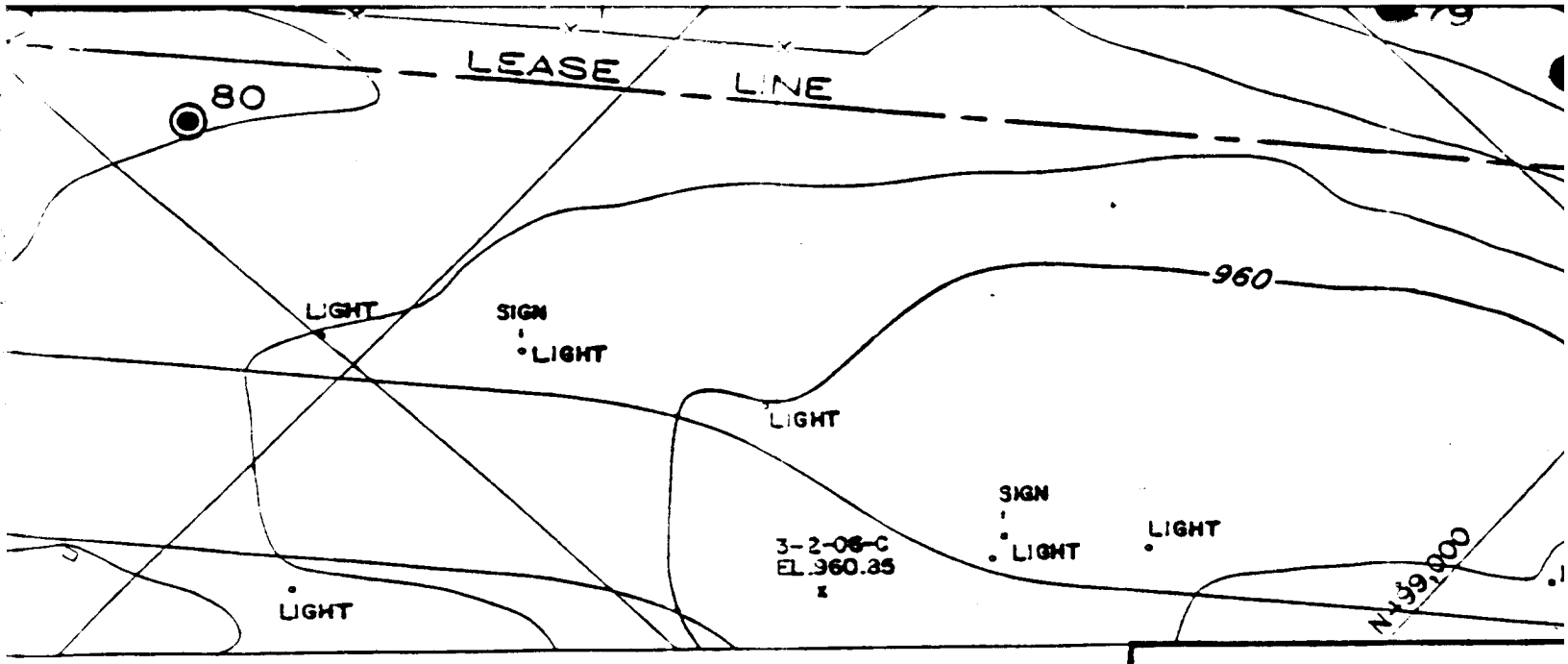


29





SCALE IN FEET



NATIONAL
WASH

AIR NAT
YEAGE
CHARLESTON
A.N
TOPOGR

CONTOUR INTERVAL: 1' &

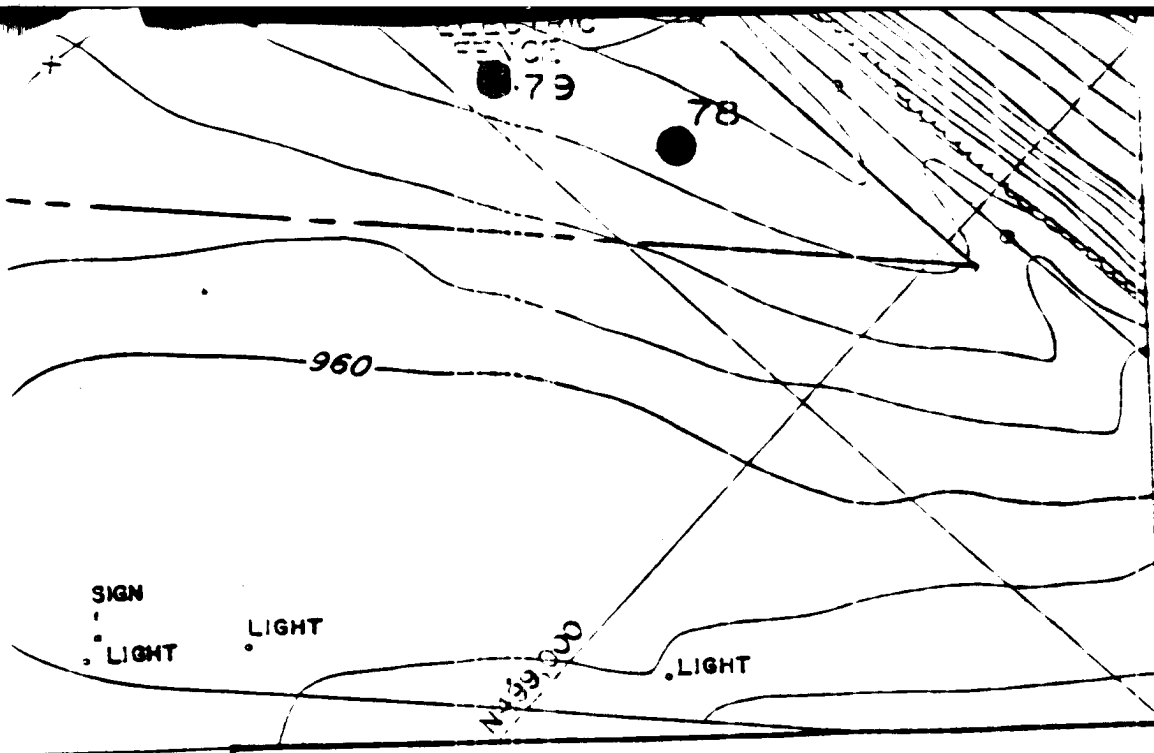
L. ROBERT KIMBALL & AS
Consulting Engineers &
EBENSBURG, PA. HUNTI

DATE	NO.	DESCRIPTION	BY

REVISIONS

30

100



NATIONAL GUARD BUREAU
WASHINGTON D. C.

31

AIR NATIONAL GUARD
YEAGER AIRPORT
CHARLESTON, WEST VIRGINIA
A.N.G. BASE
TOPOGRAPHIC MAP

CONTOUR INTERVAL: 1' & 2'

DATE: MAY, 1985

APPENDIX F

ANALYTICAL SUMMARY TABLES

VOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV152RE	WV1HA0101	WV1HA0102	WV1HA0201	WV1HA0202	WV1HA0301
LAB SAMPLE ID>	114306RE	114300	114301	114302	114303	114304
LAB FILE ID>	L4150	L4133	L4134	L4146	L4147	L4148
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE ANAL>	12/20/94	12/19/94	12/19/94	12/20/94	12/20/94	12/20/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	20	15	15	24	13	22
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	12 U	12 U	13 U	11 U	13 U
Bromomethane	12 U	12 U	12 U	13 U	11 U	13 U
Vinyl Chloride	12 U	12 U	12 U	13 U	11 U	13 U
Chloroethane	12 U	12 U	12 U	13 U	11 U	13 U
Methylene Chloride	2 BJ	12 U	12 U	13 U	11 U	13 U
Acetone	12 U	12 U	12 U	13 U	11 U	13 U
Carbon Disulfide	12 U	12 U	12 U	13 U	11 U	13 U
1,1-Dichloroethene	12 U	12 U	12 U	13 U	11 U	13 U
1,1-Dichloroethane	12 U	12 U	12 U	13 U	11 U	13 U
1,2-Dichloroethene (total)	12 U	12 U	12 U	13 U	11 U	13 U
Chloroform	12 U	12 U	12 U	13 U	11 U	13 U
1,2-Dichloroethane	12 U	12 U	12 U	13 U	11 U	13 U
2-Butanone	12 U	12 U	12 U	13 U	11 U	13 U
1,1,1-Trichloroethane	12 U	12 U	12 U	13 U	11 U	13 U
Carbon Tetrachloride	12 U	12 U	12 U	13 U	11 U	13 U
Bromodichloromethane	12 U	12 U	12 U	13 U	11 U	13 U
1,2-Dichloropropane	12 U	12 U	12 U	13 U	11 U	13 U
cis-1,3-Dichloropropene	12 U	12 U	12 U	13 U	11 U	13 U
Trichloroethene	12 U	12 U	12 U	13 U	11 U	13 U
Dibromochloromethane	12 U	12 U	12 U	13 U	11 U	13 U
1,1,2-Trichloroethane	12 U	12 U	12 U	13 U	11 U	13 U
Benzene	12 U	12 U	12 U	13 U	11 U	13 U
trans-1,3-Dichloropropene	12 U	12 U	12 U	13 U	11 U	13 U
Bromoform	12 U	12 U	12 U	13 U	11 U	13 U
4-Methyl-2-Pentanone	12 UJ	12 U	12 U	13 U	11 U	13 U
2-Hexanone	12 UJ	12 U	12 U	13 U	11 U	13 U
Tetrachloroethene	12 UJ	12 U	12 U	13 U	11 U	13 U
1,1,2,2-Tetrachloroethane	12 UJ	12 U	12 U	13 U	11 U	13 U
Toluene	12 UJ	12 U	12 U	13 U	11 U	13 U
Chlorobenzene	12 UJ	12 U	12 U	13 U	11 U	13 U
Ethylbenzene	12 UJ	12 U	12 U	13 U	11 U	13 U
Styrene	12 UJ	12 U	12 U	13 U	11 U	13 U
Xylene (total)	12 UJ	12 U	12 U	13 U	11 U	13 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

VOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV1HA0302	WV1SE01	WV1SEO2	WV251	WV2SE02	WV2SEO1
LAB SAMPLE ID>	114305	114190	114192	114195	114189	114193
LAB FILE ID>	L4139	L4141	L4122	L4124	L4129	L4123
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94
DATE ANAL>	12/19/94	12/19/94	12/16/94	12/16/94	12/19/94	12/16/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	29	28	22	20	62	42
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	14 UJ	14 U	14 U	12 U	26 U	17 U
Bromomethane	14 UJ	14 U	14 U	12 U	26 U	17 U
Vinyl Chloride	14 UJ	14 U	14 U	12 U	26 U	17 U
Chloroethane	14 UJ	14 U	14 U	12 U	26 U	17 U
Methylene Chloride	14 UJ	14 U	14 U	12 U	26 U	17 U
Acetone	14 UJ	14 U	14 U	160	240	17 U
Carbon Disulfide	14 UJ	14 U	14 U	12 U	26 U	17 U
1,1-Dichloroethene	14 UJ	14 U	14 U	12 U	26 U	17 U
1,1-Dichloroethane	14 UJ	14 U	14 U	12 U	26 U	17 U
1,2-Dichloroethene (total)	14 UJ	14 U	14 U	12 U	26 U	17 U
Chloroform	14 UJ	14 U	14 U	12 U	26 U	17 U
1,2-Dichloroethane	14 UJ	14 U	14 U	12 U	26 U	17 U
2-Butanone	14 UJ	14 U	14 U	12 U	56	17 U
1,1,1-Trichloroethane	14 UJ	14 U	14 U	12 U	26 U	17 U
Carbon Tetrachloride	14 UJ	14 U	14 U	12 U	26 U	17 U
Bromodichloromethane	14 UJ	14 U	14 U	12 U	26 U	17 U
1,2-Dichloropropane	14 UJ	14 U	14 U	12 U	26 U	17 U
cis-1,3-Dichloropropene	14 UJ	14 U	14 U	12 U	26 U	17 U
Trichloroethene	14 UJ	14 U	14 U	12 U	26 U	17 U
Dibromochloromethane	14 UJ	14 U	14 U	12 U	26 U	17 U
1,1,2-Trichloroethane	14 UJ	14 U	14 U	12 U	26 U	17 U
Benzene	14 UJ	14 U	14 U	12 U	26 U	17 U
trans-1,3-Dichloropropene	14 UJ	14 U	14 U	12 U	26 U	17 U
Bromoform	14 UJ	14 U	14 U	12 U	26 U	17 U
4-Methyl-2-Pentanone	14 UJ	14 U	14 U	12 U	26 U	17 UJ
2-Hexanone	14 UJ	14 U	14 U	12 U	26 U	17 UJ
Tetrachloroethene	14 UJ	14 U	14 U	12 U	26 U	17 UJ
1,1,2,2-Tetrachloroethane	14 UJ	14 U	14 U	12 U	26 U	17 UJ
Toluene	4 J	14 U	14 U	3 J	26 U	17 UJ
Chlorobenzene	14 UJ	14 U	14 U	12 U	26 U	17 UJ
Ethylbenzene	14 UJ	14 U	14 U	12 U	26 U	17 UJ
Styrene	14 UJ	14 U	14 U	12 U	26 U	17 UJ
Xylene (total)	14 UJ	14 U	14 U	12 U	26 U	17 UJ

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

VOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV2SE03	WV2SE04
LAB SAMPLE ID>	114191	114194
LAB FILE ID>	L4121	L4116
MATRIX>	SOIL	SOIL
DATE RECD>	12/15/94	12/15/94
DATE ANAL>	12/16/94	12/16/94
DILUTION>	1.0	1.0
%MOIST>	32	21
CONC UNITS>	UG/KG	UG/KG
Chloromethane	15 U	13 U
Bromomethane	15 U	13 U
Vinyl Chloride	15 U	13 U
Chloroethane	15 U	13 U
Methylene Chloride	15 U	13 U
Acetone	110	100
Carbon Disulfide	15 U	13 U
1,1-Dichloroethene	15 U	13 U
1,1-Dichloroethane	15 U	13 U
1,2-Dichloroethene (total)	15 U	13 U
Chloroform	15 U	13 U
1,2-Dichloroethane	15 U	13 U
2-Butanone	15 U	13 U
1,1,1-Trichloroethane	15 U	13 U
Carbon Tetrachloride	15 U	13 U
Bromodichloromethane	15 U	13 U
1,2-Dichloropropane	15 U	13 U
cis-1,3-Dichloropropene	15 U	13 U
Trichloroethene	15 U	13 U
Dibromochloromethane	15 U	13 U
1,1,2-Trichloroethane	15 U	13 U
Benzene	15 U	13 U
trans-1,3-Dichloropropene	15 U	13 U
Bromoform	15 U	13 U
4-Methyl-2-Pentanone	15 U	13 U
2-Hexanone	15 U	13 U
Tetrachloroethene	15 U	13 U
1,1,2,2-Tetrachloroethane	15 U	13 U
Toluene	15 U	1 J
Chlorobenzene	15 U	13 U
Ethylbenzene	15 U	13 U
Styrene	15 U	13 U
Xylene (total)	15 U	13 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

SEMIVOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV152	WV1HA0101	WV1HA0102	WV1HA0201	WV1HA0202RE	WV1HA0301
LAB SAMPLE ID>	114306	114300	114301	114302	114303RE	114304
LAB FILE ID>	F0130	F0103	F0125	F0126	F0221	F0128
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE EXTD>	12/20/94	12/20/94	12/20/94	12/20/94	01/03/95	12/20/94
DATE ANAL>	12/26/94	12/24/94	12/26/94	12/26/94	01/05/95	12/26/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	17	10	15	15	14	26
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	400 U	370 U	390 U	390 U	380 UJ	450 U
bis(2-Chloroethyl)Ether	400 U	370 U	390 U	390 U	380 UJ	450 U
2-Chlorophenol	400 U	370 U	390 U	390 U	380 UJ	450 U
1,3-Dichlorobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
1,4-Dichlorobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
1,2-Dichlorobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
2-Methylphenol	400 U	370 U	390 U	390 U	380 UJ	450 U
2,2'-oxybis(1-Chloropropane	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Methylphenol	400 U	370 U	390 U	390 U	380 UJ	450 U
N-Nitroso-Di-n-Propylamine	400 U	370 U	390 U	390 U	380 UJ	450 U
Hexachloroethane	400 U	370 U	390 U	390 U	380 UJ	450 U
Nitrobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
Isophorone	400 U	370 U	390 U	390 U	380 UJ	450 U
2-Nitrophenol	400 U	370 U	390 U	390 U	380 UJ	450 U
2,4-Dimethylphenol	400 U	370 U	390 U	390 U	380 UJ	450 U
bis(2-Chloroethoxy)Methane	400 U	370 U	390 U	390 U	380 UJ	450 U
2,4-Dichlorophenol	400 U	370 U	390 U	390 U	380 UJ	450 U
1,2,4-Trichlorobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
Naphthalene	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Chloroaniline	400 U	370 U	390 U	390 U	380 UJ	450 U
Hexachlorobutadiene	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Chloro-3-Methylphenol	400 U	370 U	390 U	390 U	380 UJ	450 U
2-Methylnaphthalene	400 U	370 U	390 U	390 U	380 UJ	450 U
Hexachlorocyclopentadiene	400 U	370 U	390 U	390 U	380 UJ	450 U
2,4,6-Trichlorophenol	400 U	370 U	390 U	390 U	380 UJ	450 U
2,4,5-Trichlorophenol	960 U	890 U	940 U	940 U	930 UJ	1100 U
2-Chloronaphthalene	400 U	370 U	390 U	390 U	380 UJ	450 U
2-Nitroaniline	960 U	890 U	940 U	940 U	930 UJ	1100 U
Dimethyl Phthalate	400 U	370 U	390 U	390 U	380 UJ	450 U
Acenaphthylene	400 U	370 U	390 U	390 U	380 UJ	450 U
2,6-Dinitrotoluene	400 U	370 U	390 U	390 U	380 UJ	450 U
3-Nitroaniline	960 U	890 U	940 U	940 U	930 UJ	1100 U
Acenaphthene	400 U	370 U	390 U	390 U	380 UJ	450 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

SEMIVOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV152	WV1HA0101	WV1HA0102	WV1HA0201	WV1HA0202RE	WV1HA0301
LAB SAMPLE ID>	114306	114300	114301	114302	114303RE	114304
LAB FILE ID>	F0130	F0103	F0125	F0126	F0221	F0128
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE EXTD>	12/20/94	12/20/94	12/20/94	12/20/94	01/03/95	12/20/94
DATE ANAL>	12/26/94	12/24/94	12/26/94	12/26/94	01/05/95	12/26/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	17	10	15	15	14	26
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	960 U	890 U	940 U	940 U	930 UJ	1100 U
4-Nitrophenol	960 U	890 U	940 U	940 U	930 UJ	1100 U
Dibenzofuran	400 U	370 U	390 U	390 U	380 UJ	450 U
2,4-Dinitrotoluene	400 U	370 U	390 U	390 U	380 UJ	450 U
Diethylphthalate	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Chlorophenyl-phenylether	400 U	370 U	390 U	390 U	380 UJ	450 U
Fluorene	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Nitroaniline	960 U	890 U	940 U	940 U	930 UJ	1100 U
4,6-Dinitro-2-Methylphenol	960 U	890 U	940 U	940 U	930 UJ	1100 U
N-Nitrosodiphenylamine (1)	400 U	370 U	390 U	390 U	380 UJ	450 U
4-Bromophenyl-phenylether	400 U	370 U	390 U	390 U	380 UJ	450 U
Hexachlorobenzene	400 U	370 U	390 U	390 U	380 UJ	450 U
Pentachlorophenol	960 U	890 U	940 U	940 U	930 UJ	1100 U
Phenanthrene	400 U	370 U	390 U	390 U	380 UJ	450 U
Anthracene	400 U	370 U	390 U	390 U	380 UJ	450 U
Carbazole	400 U	370 U	390 U	390 U	380 UJ	450 U
Di-n-Butylphthalate	400 U	370 U	390 U	390 U	380 UJ	450 U
Fluoranthene	400 U	370 U	390 U	390 U	380 UJ	450 U
Pyrene	400 U	370 U	390 U	390 U	380 UJ	450 U
Butylbenzylphthalate	400 U	370 U	390 U	390 U	380 UJ	450 U
3,3'-Dichlorobenzidine	400 U	370 U	390 U	390 U	380 UJ	450 U
Benzo(a)Anthracene	400 U	370 U	390 U	390 U	380 UJ	450 U
Chrysene	400 U	370 U	390 U	390 U	380 UJ	450 U
bis(2-Ethylhexyl)Phthalate	42 J	370 U	390 U	390 U	380 UJ	760
Di-n-Octyl Phthalate	400 U	370 U	390 U	390 U	380 UJ	450 U
Benzo(b)Fluoranthene	400 U	370 U	390 U	390 U	380 UJ	450 U
Benzo(k)Fluoranthene	400 U	370 U	390 U	390 U	380 UJ	450 U
Benzo(a)Pyrene	400 U	370 U	390 U	390 U	380 UJ	450 U
Indeno(1,2,3-cd)Pyrene	400 U	370 U	390 U	390 U	380 UJ	450 U
Dibenz(a,h)Anthracene	400 U	370 U	390 U	390 U	380 UJ	450 U
Benzo(g,h,i)Perylene	400 U	370 U	390 U	390 U	380 UJ	450 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
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SEMIVOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV1HA0302	WV1SE01	WV1SE02	WV251	WV2SE01	WV2SE02
LAB SAMPLE ID>	114305	114190	114192	114195	114193	114189
LAB FILE ID>	F0129	F0097	F0099	F0102	F0100	F0094
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94
DATE EXTD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE ANAL>	12/26/94	12/23/94	12/23/94	12/24/94	12/23/94	12/23/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	32	29	30	31	49	49
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	490 U	470 U	480 U	480 U	650 U	330 J
bis(2-Chloroethyl)Ether	490 U	470 U	480 U	480 U	650 U	650 U
2-Chlorophenol	490 U	470 U	480 U	480 U	650 U	650 U
1,3-Dichlorobenzene	490 U	470 U	480 U	480 U	650 U	650 U
1,4-Dichlorobenzene	490 U	470 U	480 U	480 U	650 U	650 U
1,2-Dichlorobenzene	490 U	470 U	480 U	480 U	650 U	650 U
2-Methylphenol	490 U	470 U	480 U	480 U	650 U	650 U
2,2'-oxybis(1-Chloropropane	490 U	470 U	480 U	480 U	650 U	650 U
4-Methylphenol	490 U	470 U	480 U	480 U	650 U	650 U
N-Nitroso-Di-n-Propylamine	490 U	470 U	480 U	480 U	650 U	650 U
Hexachloroethane	490 U	470 U	480 U	480 U	650 U	650 U
Nitrobenzene	490 U	470 U	480 U	480 U	650 U	650 U
Isophorone	490 U	470 U	480 U	480 U	650 U	650 U
2-Nitrophenol	490 U	470 U	480 U	480 U	650 U	650 U
2,4-Dimethylphenol	490 U	470 U	480 U	480 U	650 U	650 U
bis(2-Chloroethoxy)Methane	490 U	470 U	480 U	480 U	650 U	650 U
2,4-Dichlorophenol	490 U	470 U	480 U	480 U	650 U	650 U
1,2,4-Trichlorobenzene	490 U	470 U	480 U	480 U	100 J	64 J
Naphthalene	490 U	470 U	480 U	480 U	650 U	650 U
4-Chloroaniline	490 U	470 U	480 U	480 U	650 U	650 U
Hexachlorobutadiene	490 U	470 U	480 U	480 U	650 U	650 U
4-Chloro-3-Methylphenol	490 U	470 U	480 U	480 U	650 U	650 U
2-Methylnaphthalene	490 U	470 U	480 U	480 U	650 U	650 U
Hexachlorocyclopentadiene	490 U	470 U	480 U	480 U	650 U	650 U
2,4,6-Trichlorophenol	490 U	470 U	480 U	480 U	650 U	650 U
2,4,5-Trichlorophenol	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
2-Chloronaphthalene	490 U	470 U	480 U	480 U	650 U	650 U
2-Nitroaniline	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
Dimethyl Phthalate	490 U	470 U	480 U	480 U	650 U	650 U
Acenaphthylene	490 U	470 U	480 U	480 U	650 U	650 U
2,6-Dinitrotoluene	490 U	470 U	480 U	480 U	650 U	650 U
3-Nitroaniline	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
Acenaphthene	490 U	92 J	480 U	480 U	650 U	650 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

SEMIVOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV1HA0302	WV1SE01	WV1SE02	WV251	WV2SE01	WV2SE02
LAB SAMPLE ID>	114305	114190	114192	114195	114193	114189
LAB FILE ID>	F0129	F0097	F0099	F0102	F0100	F0094
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94
DATE EXTD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE ANAL>	12/26/94	12/23/94	12/23/94	12/24/94	12/23/94	12/23/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	32	29	30	31	49	49
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
4-Nitrophenol	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
Dibenzofuran	490 U	68 J	480 U	480 U	650 U	650 U
2,4-Dinitrotoluene	490 U	470 U	480 U	480 U	650 U	650 U
Diethylphthalate	490 U	470 U	480 U	480 U	650 U	650 U
4-Chlorophenyl-phenylether	490 U	470 U	480 U	480 U	650 U	650 U
Fluorene	490 U	120 J	480 U	480 U	650 U	650 U
4-Nitroaniline	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
4,6-Dinitro-2-Methylphenol	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
N-Nitrosodiphenylamine (1)	490 U	470 U	480 U	480 U	650 U	650 U
4-Bromophenyl-phenylether	490 U	470 U	480 U	480 U	650 U	650 U
Hexachlorobenzene	490 U	470 U	480 U	480 U	650 U	650 U
Pentachlorophenol	1200 U	1100 U	1200 U	1200 U	1600 U	1600 U
Phenanthrene	490 U	1200	180 J	480 U	110 J	390 J
Anthracene	490 U	350 J	480 U	480 U	650 U	650 U
Carbazole	490 U	190 J	480 U	480 U	650 U	73 J
Di-n-Butylphthalate	490 U	470 U	480 U	480 U	650 U	650 U
Fluoranthene	58 J	1800	460 J	480 U	480 J	1200
Pyrene	60 J	1300	300 J	480 U	360 J	950
Butylbenzylphthalate	490 U	470 U	480 U	480 U	170 J	180 J
3,3'-Dichlorobenzidine	490 U	470 U	480 U	480 U	650 U	650 U
Benzo(a)Anthracene	490 U	780	130 J	480 U	180 J	400 J
Chrysene	56 J	770	170 J	480 U	260 J	700
bis(2-Ethylhexyl)Phthalate	100 J	470 U	480 U	50 J	360 J	970
Di-n-Octyl Phthalate	490 U	470 U	480 U	480 U	650 U	650 U
Benzo(b)Fluoranthene	490 U	550	130 J	480 U	180 J	580 J
Benzo(k)Fluoranthene	490 U	670	120 J	480 U	210 J	440 J
Benzo(a)Pyrene	48 J	700	120 J	480 U	170 J	450 J
Indeno(1,2,3-cd)Pyrene	490 U	400 J	69 J	480 U	120 J	310 J
Dibenz(a,h)Anthracene	490 U	100 J	480 U	480 U	650 U	120 J
Benzo(g,h,i)Perylene	490 U	390 J	68 J	480 U	120 J	330 J

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

SEMIVOLATILE ORGANICS FD1280

CLIENT SAMPLE ID>	WV2SE03	WV2SE04
LAB SAMPLE ID>	114191	114194
LAB FILE ID>	F0098	F0101
MATRIX>	SOIL	SOIL
DATE RECD>	12/15/94	12/15/94
DATE EXTD>	12/20/94	12/20/94
DATE ANAL>	12/23/94	12/24/94
DILUTION>	1.0	1.0
%MOIST>	44	26
CONC UNITS>	UG/KG	UG/KG
Phenol	590 U	450 U
bis(2-Chloroethyl)Ether	590 U	450 U
2-Chlorophenol	590 U	450 U
1,3-Dichlorobenzene	590 U	450 U
1,4-Dichlorobenzene	590 U	450 U
1,2-Dichlorobenzene	590 U	450 U
2-Methylphenol	590 U	450 U
2,2'-oxybis(1-Chloropropane	590 U	450 U
4-Methylphenol	590 U	450 U
N-Nitroso-Di-n-Propylamine	590 U	450 U
Hexachloroethane	590 U	450 U
Nitrobenzene	590 U	450 U
Isophorone	590 U	450 U
2-Nitrophenol	590 U	450 U
2,4-Dimethylphenol	590 U	450 U
bis(2-Chloroethoxy)Methane	590 U	450 U
2,4-Dichlorophenol	590 U	450 U
1,2,4-Trichlorobenzene	590 U	450 U
Naphthalene	590 U	450 U
4-Chloroaniline	590 U	450 U
Hexachlorobutadiene	590 U	450 U
4-Chloro-3-Methylphenol	590 U	450 U
2-Methylnaphthalene	590 U	450 U
Hexachlorocyclopentadiene	590 U	450 U
2,4,6-Trichlorophenol	590 U	450 U
2,4,5-Trichlorophenol	1400 U	1100 U
2-Chloronaphthalene	590 U	450 U
2-Nitroaniline	1400 U	1100 U
Dimethyl Phthalate	590 U	450 U
Acenaphthylene	590 U	450 U
2,6-Dinitrotoluene	590 U	450 U
3-Nitroaniline	1400 U	1100 U
Acenaphthene	590 U	450 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

SEMIVOLATILE ORGANICS FD1280

LAB SAMPLE ID>	WV2SE03	WV2SE04
LAB FILE ID>	114191	114194
MATRIX>	F0098	F0101
DATE RECD>	SOIL	SOIL
DATE EXTD>	12/15/94	12/15/94
DATE ANAL>	12/20/94	12/20/94
DILUTION>	12/23/94	12/24/94
%MOIST>	1.0	1.0
CONC UNITS>	44	26
	UG/KG	UG/KG
2,4-Dinitrophenol	1400 U	1100 U
4-Nitrophenol	1400 U	1100 U
Dibenzofuran	590 U	450 U
2,4-Dinitrotoluene	590 U	450 U
Diethylphthalate	590 U	450 U
4-Chlorophenyl-phenylether	590 U	450 U
Fluorene	590 U	450 U
4-Nitroaniline	1400 U	1100 U
4,6-Dinitro-2-Methylphenol	1400 U	1100 U
N-Nitrosodiphenylamine (1)	590 U	450 U
4-Bromophenyl-phenylether	590 U	450 U
Hexachlorobenzene	590 U	450 U
Pentachlorophenol	1400 U	1100 U
Phenanthrene	590 U	450 U
Anthracene	590 U	450 U
Carbazole	590 U	450 U
Di-n-Butylphthalate	590 U	450 U
Fluoranthene	93 J	43 J
Pyrene	67 J	450 U
Butylbenzylphthalate	590 U	450 U
3,3'-Dichlorobenzidine	590 U	450 U
Benzo(a)Anthracene	590 U	450 U
Chrysene	590 U	450 U
bis(2-Ethylhexyl)Phthalate	58 J	51 J
Di-n-Octyl Phthalate	590 U	450 U
Benzo(b)Fluoranthene	590 U	450 U
Benzo(k)Fluoranthene	590 U	450 U
Benzo(a)Pyrene	590 U	450 U
Indeno(1,2,3-cd)Pyrene	590 U	450 U
Dibenz(a,h)Anthracene	590 U	450 U
Benzo(g,h,i)Perylene	590 U	450 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCBs CLP FD1280

CLIENT SAMPLE ID>	WV1SE01	WV1SE02	WV251	WV2SE01	WV2SE02	WV2SE03
LAB SAMPLE ID>	114190	114192	114195	114193	114189	114191
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94
DATE EXTD>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DATE ANAL>	12/27/94	12/27/94	12/27/94	12/27/94	12/27/94	12/27/94
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	29	30	31	49	49	44
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	45 U	46 U	47 U	63 U	65 U	58 U
AR-1221	91 U	94 U	96 U	130 U	130 U	120 U
AR-1232	45 U	46 U	47 U	63 U	65 U	58 U
AR-1242	45 U	46 U	47 U	63 U	65 U	58 U
AR-1248	45 U	46 U	47 U	63 U	65 U	58 U
AR-1254	45 U	46 U	47 U	63 U	65 U	58 U
AR-1260	45 U	46 U	47 U	63 U	65 U	58 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

CLIENT SAMPLE ID>	WV2SE04	WV1HA0301	WV1HA0302	WV152	WV1HA0101	WV1HA0102
LAB SAMPLE ID>	114194	114304	114305	114306	114300	114301
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/15/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE EXTD>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DATE ANAL>	12/27/94	12/28/94	12/28/94	12/28/94	12/27/94	12/28/94
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	26	26	32	17	10	15
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	44 U	44 U	49 U	39 U	36 U	37 U
AR-1221	89 U	90 U	99 U	80 U	73 U	76 U
AR-1232	44 U	44 U	49 U	39 U	36 U	37 U
AR-1242	44 U	44 U	49 U	39 U	36 U	37 U
AR-1248	44 U	44 U	49 U	39 U	36 U	37 U
AR-1254	44 U	250	270	39 U	36 U	37 U
AR-1260	44 U	44 U	49 U	39 U	36 U	37 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCBs CLP FD1280

CLIENT SAMPLE ID>	WV1HA0201	WV1HA0202
LAB SAMPLE ID>	114302	114303
MATRIX>	SOIL	SOIL
DATE RECD>	12/16/94	12/16/94
DATE EXTD>	12/19/94	12/19/94
DATE ANAL>	12/28/94	12/28/94
DILUTION>	1.00	1.00
%MOIST>	15	14
CONC UNITS>	UG/KG	UG/KG
AR-1016	39 U	37 U
AR-1221	79 U	76 U
AR-1232	39 U	37 U
AR-1242	39 U	37 U
AR-1248	39 U	37 U
AR-1254	39 U	37 U
AR-1260	39 U	37 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

PRIORITY POLLUTANT METALS FD1280

CLIENT SAMPLE ID>	WV1SE01	WV1SE02	WV2SE01	WV2SE03	WV2SE04	WV1HA0101
LAB SAMPLE ID>	6-114190S	6-114192S	6-114193S	6-114191S	6-114194S	8-114300S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/15/94	12/15/94	12/15/94	12/15/94	12/15/94	12/16/94
PRCNT SOLIDS>	70.9	59.9	46.3	54.8	44.0	88.7
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	7.1 UJ	8.3 UJ	10.8 UJ	9.1 UJ	11.4 J	5.6 UJ
AS	3.2	6.2	7.1	1.6 J	4	1.7 J
BE	0.62	1.1	0.82	0.43	0.53	1.1
CD	3.4	4.1	2.6	1.4	1.8	2
CR	24.2	18.6	8	9.5	9	14.9
CU	34.7	26	11.3	13.5	10.2	17
PB	44.8	45.9 J	37.1	14.2	23.6	8.7
HG	0.14 U	0.17 U	0.22 U	0.18 U	0.23 U	0.11 U
NI	18	25.3	14	8.4	11.9	29.2
SE	1.6	1.1	0.91	0.73 UJ	0.91 UJ	0.45 UJ
AG	1.7 J	1.8 J	1.3 UJ	1.5 J	1.4 UJ	0.85 J
TL	0.56 UJ	0.67 UJ	0.86 U	0.73 U	0.91 U	0.45 U
ZN	118	123	99.1	36	46.1	52.4

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PRIORITY POLLUTANT METALS FD1280

CLIENT SAMPLE ID>	WV1HA0102	WV1HA0201	WV1HA0202	WV1HA0301	WV1HA0302	WV2SE02
LAB SAMPLE ID>	8-114301S	8-114302S	8-114303S	8-114304S	8-114305S	6-114189S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/15/94
PRCNT SOLIDS>	84.0	82.3	85.4	74.0	74.0	47.4
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	6 UJ	6.1 UJ	5.9 UJ	27.2 J	52.1 J	10.5 UJ
AS	2.3 J	4.5	1.8	14.9	19.5	2.3
BE	1.4	1.1	1.4	0.36	0.56	0.8
CD	3.4	3.8	8.6	105	102	3.8
CR	24.8	18.8	23.9	324	196	16.2
CU	29.7	27.8	38.6	1180	2270	20.2
PB	12.8	33.8	49.1	2150	1980	47.8
HG	0.12 U	0.12 U	0.12 U	8.7	4.4	0.21 U
NI	33	18	20.3	317	94.4	13.7
SE	0.48 UJ	0.49 UJ	0.47 UJ	0.54 U	0.54 U	0.84 U
AG	0.71 UJ	1.3 J	1.3 J	48.7 J	44.4 J	1.3 UJ
TL	0.48 U	0.49 U	0.47 U	0.54 U	0.54 U	0.84 U
ZN	50.1	69.1	99.7	8050	3670	114

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

PRIORITY POLLUTANT METALS FD1280

CLIENT SAMPLE ID>	WV152	WV251
LAB SAMPLE ID>	8-114306S	6-114195S
MATRIX>	SOIL	SOIL
DATE RECD>	12/16/94	12/15/94
PRCNT SOLIDS>	81.6	70.0
CONC UNITS>	MG/KG	MG/KG
SB	6.1 UJ	7.1 UJ
AS	3.3	1.5
BE	0.79	0.29 U
CD	3	0.86 U
CR	15.6	2.9
CU	19.6	3.5
PB	33.6	4.8
HG	0.12 U	0.14 U
NI	12.3	4.5
SE	0.49 U	0.57 UJ
AG	1.2 J	1.1 J
TL	0.49 U	0.57 U
ZN	47.8	17.2

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

Volatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA0401	WV1HA0402	WV1HA0501	WV1HA0502	WV1HA0601	WV1HA0602
LAB SAMPLE ID>	114391	114392	114393	114394	114395	114396
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/17/94	12/17/94	12/17/94	12/17/94	12/17/94	12/17/94
DATE ANAL>	12/28/94	12/28/94	12/28/94	12/28/94	12/28/94	12/29/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	30	18	25	18	25	22
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	14 U	12 U	13 U	12 U	13 U	13 U
Bromomethane	14 U	12 U	13 U	12 U	13 U	13 U
Vinyl Chloride	14 U	12 U	13 U	12 U	13 U	13 U
Chloroethane	14 U	12 U	13 U	12 U	13 U	13 U
Methylene Chloride	14 U	12 U	13 U	12 U	13 U	57
Acetone	14 U	12 U	13 U	12 U	13 U	13 U
Carbon Disulfide	14 U	12 U	13 U	12 U	13 U	13 U
1,1-Dichloroethene	14 U	12 U	13 U	12 U	13 U	13 U
1,1-Dichloroethane	14 U	12 U	13 U	12 U	13 U	13 U
1,2-Dichloroethene (total)	14 U	12 U	13 U	12 U	13 U	13 U
Chloroform	14 U	12 U	13 U	12 U	13 U	13 U
1,2-Dichloroethane	14 U	12 U	13 U	12 U	13 U	13 U
2-Butanone	14 U	12 U	13 U	12 U	13 U	13 U
1,1,1-Trichloroethane	14 U	12 U	13 U	12 U	13 U	13 U
Carbon Tetrachloride	14 U	12 U	13 U	12 U	13 U	13 U
Bromodichloromethane	14 U	12 U	13 U	12 U	13 U	13 U
1,2-Dichloropropane	14 U	12 U	13 U	12 U	13 U	13 U
cis-1,3-Dichloropropene	14 U	12 U	13 U	12 U	13 U	13 U
Trichloroethene	14 U	12 U	13 U	12 U	13 U	13 U
Dibromochloromethane	14 U	12 U	13 U	12 U	13 U	13 U
1,1,2-Trichloroethane	14 U	12 U	13 U	12 U	13 U	13 U
Benzene	14 U	12 U	13 U	12 U	13 U	13 U
trans-1,3-Dichloropropene	14 U	12 U	13 U	12 U	13 U	13 U
Bromoform	14 U	12 U	13 U	12 U	13 U	13 U
4-Methyl-2-Pentanone	14 U	12 U	13 U	12 U	13 U	13 U
2-Hexanone	14 U	12 U	13 U	12 U	13 U	13 U
Tetrachloroethene	14 U	12 U	13 U	12 U	13 U	13 U
1,1,2,2-Tetrachloroethane	14 U	12 U	13 U	12 U	13 U	13 U
Toluene	14 U	12 U	13 U	12 U	13 U	13 U
Chlorobenzene	14 U	12 U	13 U	12 U	13 U	13 U
Ethylbenzene	14 U	12 U	13 U	12 U	13 U	13 U
Styrene	14 U	12 U	13 U	12 U	13 U	13 U
Xylene (total)	14 U	12 U	13 U	12 U	13 U	13 U

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Volatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA0701	WV1HA0702	WV1HA0801	WV1HA0802	WV1HA0901	WV1HA0902
LAB SAMPLE ID>	114397	114398	114402	114403	114404	114406
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/17/94	12/17/94	12/19/94	12/19/94	12/19/94	12/19/94
DATE ANAL>	12/28/94	12/28/94	12/28/94	12/28/94	12/28/94	12/28/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	32	21	22	23	17	9
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	15 U	13 U	13 U	13 U	12 U	11 U
Bromomethane	15 U	13 U	13 U	13 U	12 U	11 U
Vinyl Chloride	15 U	13 U	13 U	13 U	12 U	11 U
Chloroethane	15 U	13 U	13 U	13 U	12 U	11 U
Methylene Chloride	15 U	13 U	13 U	13 U	12 U	11 U
Acetone	15 U	37 J	13 U	13 U	12 U	11 U
Carbon Disulfide	15 U	13 U	13 U	13 U	12 U	11 U
1,1-Dichloroethene	15 U	13 U	13 U	13 U	12 U	11 U
1,1-Dichloroethane	15 U	13 U	13 U	13 U	12 U	11 U
1,2-Dichloroethene (total)	15 U	13 U	13 U	13 U	12 U	11 U
Chloroform	15 U	13 U	13 U	13 U	12 U	11 U
1,2-Dichloroethane	15 U	13 U	13 U	13 U	12 U	11 U
2-Butanone	15 U	13 U	13 U	13 U	12 U	11 U
1,1,1-Trichloroethane	15 U	13 U	13 U	13 U	12 U	11 U
Carbon Tetrachloride	15 U	13 U	13 U	13 U	12 U	11 U
Bromodichloromethane	15 U	13 U	13 U	13 U	12 U	11 U
1,2-Dichloropropane	15 U	13 U	13 U	13 U	12 U	11 U
cis-1,3-Dichloropropene	15 U	13 U	13 U	13 U	12 U	11 U
Trichloroethene	15 U	13 U	13 U	13 U	12 U	11 U
Dibromochloromethane	15 U	13 U	13 U	13 U	12 U	11 U
1,1,2-Trichloroethane	15 U	13 U	13 U	13 U	12 U	11 U
Benzene	15 U	13 U	13 U	13 U	12 U	11 U
trans-1,3-Dichloropropene	15 U	13 U	13 U	13 U	12 U	11 U
Bromoform	15 U	13 U	13 U	13 U	12 U	11 U
4-Methyl-2-Pentanone	15 U	13 U	13 U	13 U	12 U	11 U
2-Hexanone	15 U	13 U	13 U	13 U	12 U	11 U
Tetrachloroethene	15 U	13 U	13 U	13 U	12 U	11 U
1,1,2,2-Tetrachloroethane	15 U	13 U	13 U	13 U	12 U	11 U
Toluene	15 U	13 U	13 U	13 U	12 U	11 U
Chlorobenzene	15 U	13 U	13 U	13 U	12 U	11 U
Ethylbenzene	15 U	13 U	13 U	13 U	12 U	11 U
Styrene	15 U	13 U	13 U	13 U	12 U	11 U
Xylene (total)	15 U	13 U	13 U	13 U	12 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
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Volatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA1001	WV1HA1002	WV153
LAB SAMPLE ID>	114407	114408	114405
MATRIX>	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/19/94	12/19/94
DATE ANAL>	12/28/94	12/29/94	12/28/94
DILUTION>	1.0	1.0	1.0
%MOIST>	18	12	18
CONC UNITS>	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	11 U	12 U
Bromomethane	12 U	11 U	12 U
Vinyl Chloride	12 U	11 U	12 U
Chloroethane	12 U	11 U	12 U
Methylene Chloride	12 U	11 U	12 U
Acetone	12 U	11 U	12 U
Carbon Disulfide	12 U	11 U	12 U
1,1-Dichloroethene	12 U	11 U	12 U
1,1-Dichloroethane	12 U	11 U	12 U
1,2-Dichloroethene (total)	12 U	11 U	12 U
Chloroform	12 U	11 U	12 U
1,2-Dichloroethane	12 U	11 U	12 U
2-Butanone	12 U	11 U	12 U
1,1,1-Trichloroethane	12 U	11 U	12 U
Carbon Tetrachloride	12 U	11 U	12 U
Bromodichloromethane	12 U	11 U	12 U
1,2-Dichloropropane	12 U	11 U	12 U
cis-1,3-Dichloropropene	12 U	11 U	12 U
Trichloroethene	12 U	11 U	12 U
Dibromochloromethane	12 U	11 U	12 U
1,1,2-Trichloroethane	12 U	11 U	12 U
Benzene	12 U	11 U	12 U
trans-1,3-Dichloropropene	12 U	11 U	12 U
Bromoform	12 U	11 U	12 U
4-Methyl-2-Pentanone	12 U	11 U	12 U
2-Hexanone	12 U	11 U	12 U
Tetrachloroethene	12 U	11 U	12 U
1,1,2,2-Tetrachloroethane	12 U	11 U	12 U
Toluene	12 U	11 U	12 U
Chlorobenzene	12 U	11 U	12 U
Ethylbenzene	12 U	11 U	12 U
Styrene	12 U	11 U	12 U
Xylene (total)	12 U	11 U	12 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Volatiles Organics CLP 10/92 FD1281

CLIENT SAMPLE ID>	WV1EB02	WV1EB03	WV1TB04	WV1TB05
LAB SAMPLE ID>	114409	114399	114400	114410
MATRIX>	WATER	WATER	WATER	WATER
DATE ANAL.>	12/21/94	12/20/94	12/21/94	12/21/94
DILUTION>	1	1	1	1
CONC. UNITS>	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U
Methylene Chloride	0.3 J	0.2 J	0.4 J	0.5 J
Acetone	5 R	5 R	5 R	5 R
Carbon Disulfide	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U
1,2-Dichloroethene	1 U	1 U	1 U	1 U
2-Butanone	5 R	5 R	5 R	5 R
Bromochloromethane	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U
cis-1,3-Dibromoethane	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	0.2 J	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U
1,1,2-Trichloroethene	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U
2-Hexanone	5 R	5 R	5 R	5 R
Tetrachloroethene	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	0.2 J	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1EB02	WV1EB03	WV1HA0401	WV1HA0402	WV1HA0501	WV1HA0502
LAB SAMPLE ID>	114409	114399	114391	114392	114393	114394
MATRIX>	WATER	WATER	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/17/94	12/17/94	12/17/94	12/17/94	12/17/94
DATE EXTD>	12/21/94	12/21/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	12/27/94	12/27/94	01/12/95	01/12/95	01/12/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>			19	18	18	17
CONC UNITS>	UG/L	UG/L	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	10 U	10 U	410 U	400 U	400 U	400 U
bis(2-Chloroethyl)Ether	10 U	10 U	410 U	400 U	400 U	400 U
2-Chlorophenol	10 U	10 U	410 U	400 U	400 U	400 U
1,3-Dichlorobenzene	10 U	10 U	410 U	400 U	400 U	400 U
1,4-Dichlorobenzene	10 U	10 U	410 U	400 U	400 U	400 U
1,2-Dichlorobenzene	10 U	10 U	410 U	400 U	400 U	400 U
2-Methylphenol	10 U	10 U	410 U	400 U	400 U	400 U
2,2'-oxybis(1-Chloropropane	10 U	10 U	410 U	400 U	400 U	400 U
4-Methylphenol	10 U	10 U	410 U	400 U	400 U	400 U
N-Nitroso-Di-n-Propylamine	10 U	10 U	410 U	400 U	400 U	400 U
Hexachloroethane	10 U	10 U	410 U	400 U	400 U	400 U
Nitrobenzene	10 U	10 U	410 U	400 U	400 U	400 U
Isophorone	10 U	10 U	410 U	400 U	400 U	400 U
2-Nitrophenol	10 U	10 U	410 U	400 U	400 U	400 U
2,4-Dimethylphenol	10 U	10 U	410 U	400 U	400 U	400 U
bis(2-Chloroethoxy)Methane	10 U	10 U	410 U	400 U	400 U	400 U
2,4-Dichlorophenol	10 U	10 U	410 U	400 U	400 U	400 U
1,2,4-Trichlorobenzene	10 U	10 U	410 U	400 U	400 U	400 U
Naphthalene	10 U	10 U	410 U	400 U	400 U	400 U
4-Chloroaniline	10 U	10 U	410 U	400 U	400 U	400 U
Hexachlorobutadiene	10 U	10 U	410 U	400 U	400 U	400 U
4-Chloro-3-Methylphenol	10 U	10 U	410 U	400 U	400 U	400 U
2-Methylnaphthalene	10 U	10 U	410 U	400 U	400 U	400 U
Hexachlorocyclopentadiene	10 U	10 U	410 U	400 U	400 U	400 U
2,4,6-Trichlorophenol	10 U	10 U	410 U	400 U	400 U	400 U
2,4,5-Trichlorophenol	24 U	24 U	990 U	980 U	980 U	960 U
2-Chloronaphthalene	10 U	10 U	410 U	400 U	400 U	400 U
2-Nitroaniline	24 U	24 U	990 U	980 U	980 U	960 U
Dimethyl Phthalate	10 U	10 U	410 U	400 U	400 U	400 U
Acenaphthylene	10 U	10 U	410 U	400 U	400 U	400 U
2,6-Dinitrotoluene	10 U	10 U	410 U	400 U	400 U	400 U
3-Nitroaniline	24 U	24 U	990 U	980 U	980 U	960 U
Acenaphthene	10 U	10 U	410 U	400 U	400 U	400 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1EB02	WV1EB03	WV1HA0401	WV1HA0402	WV1HA050	WV1HA0502
LAB SAMPLE ID>	114409	114399	114391	114392	114393	114394
MATRIX>	WATER	WATER	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/17/94	12/17/94	12/17/94	12/17/94	12/17/94
DATE EXTD>	12/21/94	12/21/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	12/27/94	12/27/94	01/12/95	01/12/95	01/12/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>			19	18	18	17
CONC UNITS>	UG/L	UG/L	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	24 U	24 U	990 U	980 U	980 U	960 U
4-Nitrophenol	24 U	24 U	990 U	980 U	980 U	960 U
Dibenzofuran	10 U	10 U	410 U	400 U	400 U	400 U
2,4-Dinitrotoluene	10 U	10 U	410 U	400 U	400 U	400 U
Diethylphthalate	10 U	10 U	410 U	400 U	400 U	400 U
4-Chlorophenyl-phenylether	10 U	10 U	410 U	400 U	400 U	400 U
Fluorene	10 U	10 U	410 U	400 U	400 U	400 U
4-Nitroaniline	24 U	24 U	990 U	980 U	980 U	960 U
4,6-Dinitro-2-Methylphenol	24 U	24 U	990 U	980 U	980 U	960 U
N-Nitrosodiphenylamine (1)	10 U	10 U	410 U	400 U	400 U	400 U
4-Bromophenyl-phenylether	10 U	10 U	410 U	400 U	400 U	400 U
Hexachlorobenzene	10 U	10 U	410 U	400 U	400 U	400 U
Pentachlorophenol	24 U	24 U	990 U	980 U	980 U	960 U
Phenanthrene	10 U	10 U	99 J	400 U	190 J	400 U
Anthracene	10 U	10 U	410 U	400 U	57 J	400 U
Carbazole	10 U	10 U	410 U	400 U	400 U	400 U
Di-n-Butylphthalate	10 U	10 U	410 U	400 U	400 U	400 U
Fluoranthene	10 U	10 U	160 J	400 U	330 J	400 U
Pyrene	10 U	10 U	130 J	400 U	300 J	400 U
Butylbenzylphthalate	10 U	10 U	410 U	400 U	400 U	400 U
3,3'-Dichlorobenzidine	10 U	10 U	410 U	400 U	400 U	400 U
Benzo(a)Anthracene	10 U	10 U	93 J	400 U	210 J	400 U
Chrysene	10 U	10 U	90 J	400 U	210 J	400 U
bis(2-Ethylhexyl)Phthalate	10 U	10 U	410 U	400 U	400 U	400 U
Di-n-Octyl Phthalate	10 U	10 U	410 U	400 U	400 U	400 U
Benzo(b)Fluoranthene	10 U	10 U	63 J	400 U	170 J	400 U
Benzo(k)Fluoranthene	10 U	10 U	62 J	400 U	160 J	400 U
Benzo(a)Pyrene	10 U	10 U	72 J	400 U	210 J	400 U
Indeno(1,2,3-cd)Pyrene	10 U	10 U	410 U	400 U	150 J	400 U
Dibenz(a,h)Anthracene	10 U	10 U	410 U	400 U	77 J	400 U
Benzo(g,h,i)Perylene	10 U	10 U	410 U	400 U	180 J	400 U

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D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA0601	WV1HA0602	WV1HA0701	WV1HA0702	WV1HA080	WV1HA0802
LAB SAMPLE ID>	114395	114396	114397	114398	114402	114403
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/17/94	12/17/94	12/17/94	12/17/94	12/19/94	12/19/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/12/95	01/12/95	01/12/95	01/12/95	01/12/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	23	23	29	19	12	21
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	430 U	430 U	460 U	410 U	370 U	420 U
bis(2-Chloroethyl)Ether	430 U	430 U	460 U	410 U	370 U	420 U
2-Chlorophenol	430 U	430 U	460 U	410 U	370 U	420 U
1,3-Dichlorobenzene	430 U	430 U	460 U	410 U	370 U	420 U
1,4-Dichlorobenzene	430 U	430 U	460 U	410 U	370 U	420 U
1,2-Dichlorobenzene	430 U	430 U	460 U	410 U	370 U	420 U
2-Methylphenol	430 U	430 U	460 U	410 U	370 U	420 U
2,2'-oxybis(1-Chloropropane	430 U	430 U	460 U	410 U	370 U	420 U
4-Methylphenol	430 U	430 U	460 U	410 U	370 U	420 U
N-Nitroso-Di-n-Propylamine	430 U	430 U	460 U	410 U	370 U	420 U
Hexachloroethane	430 U	430 U	460 U	410 U	370 U	420 U
Nitrobenzene	430 U	430 U	460 U	410 U	370 U	420 U
Isophorone	430 U	430 U	460 U	410 U	370 U	420 U
2-Nitrophenol	430 U	430 U	460 U	410 U	370 U	420 U
2,4-Dimethylphenol	430 U	430 U	460 U	410 U	370 U	420 U
bis(2-Chloroethoxy)Methane	430 U	430 U	460 U	410 U	370 U	420 U
2,4-Dichlorophenol	430 U	430 U	460 U	410 U	370 U	420 U
1,2,4-Trichlorobenzene	430 U	430 U	460 U	410 U	370 U	420 U
Naphthalene	430 U	430 U	460 U	410 U	370 U	420 U
4-Chloroaniline	430 U	430 U	460 U	410 U	370 U	420 U
Hexachlorobutadiene	430 U	430 U	460 U	410 U	370 U	420 U
4-Chloro-3-Methylphenol	430 U	430 U	460 U	410 U	370 U	420 U
2-Methylnaphthalene	430 U	430 U	460 U	410 U	370 U	420 U
Hexachlorocyclopentadiene	430 U	430 U	460 U	410 U	370 U	420 U
2,4,6-Trichlorophenol	430 U	430 U	460 U	410 U	370 U	420 U
2,4,5-Trichlorophenol	1000 U	1000 U	1100 U	990 U	910 U	1000 U
2-Chloronaphthalene	430 U	430 U	460 U	410 U	370 U	420 U
2-Nitroaniline	1000 U	1000 U	1100 U	990 U	910 U	1000 U
Dimethyl Phthalate	430 U	430 U	460 U	410 U	370 U	420 U
Acenaphthylene	430 U	430 U	460 U	410 U	370 U	420 U
2,6-Dinitrotoluene	430 U	430 U	460 U	410 U	370 U	420 U
3-Nitroaniline	1000 U	1000 U	1100 U	990 U	910 U	1000 U
Acenaphthene	430 U	430 U	460 U	410 U	370 U	420 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA0601	WV1HA0602	WV1HA0701	WV1HA0702	WV1HA080	WV1HA0802
LAB SAMPLE ID>	114395	114396	114397	114398	114402	114403
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/17/94	12/17/94	12/17/94	12/17/94	12/19/94	12/19/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/12/95	01/12/95	01/12/95	01/12/95	01/12/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	23	23	29	19	12	21
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	1000 U	1000 U	1100 U	990 U	910 U	1000 U
4-Nitrophenol	1000 U	1000 U	1100 U	990 U	910 U	1000 U
Dibenzofuran	430 U	430 U	460 U	410 U	370 U	420 U
2,4-Dinitrotoluene	430 U	430 U	460 U	410 U	370 U	420 U
Diethylphthalate	430 U	430 U	460 U	410 U	370 U	420 U
4-Chlorophenyl-phenylether	430 U	430 U	460 U	410 U	370 U	420 U
Fluorene	430 U	430 U	460 U	410 U	370 U	420 U
4-Nitroaniline	1000 U	1000 U	1100 U	990 U	910 U	1000 U
4,6-Dinitro-2-Methylphenol	1000 U	1000 U	1100 U	990 U	910 U	1000 U
N-Nitrosodiphenylamine (1)	430 U	430 U	460 U	410 U	370 U	420 U
4-Bromophenyl-phenylether	430 U	430 U	460 U	410 U	370 U	420 U
Hexachlorobenzene	430 U	430 U	460 U	410 U	370 U	420 U
Pentachlorophenol	1000 U	1000 U	1100 U	990 U	910 U	1000 U
Phenanthrene	430 U	430 U	460 U	410 U	370 U	420 U
Anthracene	430 U	430 U	460 U	410 U	370 U	420 U
Carbazole	430 U	430 U	460 U	410 U	370 U	420 U
Di-n-Butylphthalate	430 U	430 U	460 U	410 U	370 U	420 U
Fluoranthene	430 U	430 U	460 U	410 U	370 U	420 U
Pyrene	430 U	430 U	460 U	410 U	370 U	420 U
Butylbenzylphthalate	430 U	430 U	460 U	410 U	370 U	420 U
3,3'-Dichlorobenzidine	430 U	430 U	460 U	410 U	370 U	420 U
Benzo(a)Anthracene	430 U	430 U	460 U	410 U	370 U	420 U
Chrysene	430 U	430 U	460 U	410 U	370 U	420 U
bis(2-Ethylhexyl)Phthalate	430 U	430 U	460 U	410 U	370 U	420 U
Di-n-Octyl Phthalate	430 U	430 U	460 U	410 U	370 U	420 U
Benzo(b)Fluoranthene	430 U	430 U	460 U	410 U	370 U	420 U
Benzo(k)Fluoranthene	430 U	430 U	460 U	410 U	370 U	420 U
Benzo(a)Pyrene	430 U	430 U	460 U	410 U	370 U	420 U
Indeno(1,2,3-cd)Pyrene	430 U	430 U	460 U	410 U	370 U	420 U
Dibenz(a,h)Anthracene	430 U	430 U	460 U	410 U	370 U	420 U
Benzo(g,h,i)Perylene	430 U	430 U	460 U	410 U	370 U	420 U

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Semivolatile Organics CLP F1281

CLIENT SAMPLE ID>	WV1HA0901	WV1HA0902	WV1HA1001	WV1HA1002	WV153
LAB SAMPLE ID>	114404	114406	114407	114408	114405
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/12/95	01/12/95	01/13/95	01/13/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	8	13	13	17
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	370 U	360 U	380 U	380 U	400 U
bis(2-Chloroethyl)Ether	370 U	360 U	380 U	380 U	400 U
2-Chlorophenol	370 U	360 U	380 U	380 U	400 U
1,3-Dichlorobenzene	370 U	360 U	380 U	380 U	400 U
1,4-Dichlorobenzene	370 U	360 U	380 U	380 U	400 U
1,2-Dichlorobenzene	370 U	360 U	380 U	380 U	400 U
2-Methylphenol	370 U	360 U	380 U	380 U	400 U
2,2'-oxybis(1-Chloropropane	370 U	360 U	380 U	380 U	400 U
4-Methylphenol	370 U	360 U	380 U	380 U	400 U
N-Nitroso-Di-n-Propylamine	370 U	360 U	380 U	380 U	400 U
Hexachloroethane	370 U	360 U	380 U	380 U	400 U
Nitrobenzene	370 U	360 U	380 U	380 U	400 U
Isophorone	370 U	360 U	380 U	380 U	400 U
2-Nitrophenol	370 U	360 U	380 U	380 U	400 U
2,4-Dimethylphenol	370 U	360 U	380 U	380 U	400 U
bis(2-Chloroethoxy)Methane	370 U	360 U	380 U	380 U	400 U
2,4-Dichlorophenol	370 U	360 U	380 U	380 U	400 U
1,2,4-Trichlorobenzene	370 U	360 U	380 U	380 U	400 U
Naphthalene	370 U	360 U	380 U	380 U	400 U
4-Chloroaniline	370 U	360 U	380 U	380 U	400 U
Hexachlorobutadiene	370 U	360 U	380 U	380 U	400 U
4-Chloro-3-Methylphenol	370 U	360 U	380 U	380 U	400 U
2-Methylnaphthalene	370 U	360 U	380 U	380 U	400 U
Hexachlorocyclopentadiene	370 U	360 U	380 U	380 U	400 U
2,4,6-Trichlorophenol	370 U	360 U	380 U	380 U	400 U
2,4,5-Trichlorophenol	910 U	870 U	920 U	920 U	960 U
2-Chloronaphthalene	370 U	360 U	380 U	380 U	400 U
2-Nitroaniline	910 U	870 U	920 U	920 U	960 U
Dimethyl Phthalate	370 U	360 U	380 U	380 U	400 U
Acenaphthylene	370 U	360 U	380 U	380 U	400 U
2,6-Dinitrotoluene	370 U	360 U	380 U	380 U	400 U
3-Nitroaniline	910 U	870 U	920 U	920 U	960 U
Acenaphthene	370 U	360 U	380 U	380 U	400 U

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Semivolatile Organics CLP FD1281

CLIENT SAMPLE ID>	WV1HA0901	WV1HA0902	WV1HA1001	WV1HA1002	WV153
LAB SAMPLE ID>	114404	114406	114407	114408	114405
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/12/95	01/12/95	01/13/95	01/13/95	01/12/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	8	13	13	17
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	910 U	870 U	920 U	920 U	960 U
4-Nitrophenol	910 U	870 U	920 U	920 U	960 U
Dibenzofuran	370 U	360 U	380 U	380 U	400 U
2,4-Dinitrotoluene	370 U	360 U	380 U	380 U	400 U
Diethylphthalate	370 U	360 U	380 U	380 U	400 U
4-Chlorophenyl-phenylether	370 U	360 U	380 U	380 U	400 U
Fluorene	370 U	360 U	380 U	380 U	400 U
4-Nitroaniline	910 U	870 U	920 U	920 U	960 U
4,6-Dinitro-2-Methylphenol	910 U	870 U	920 U	920 U	960 U
N-Nitrosodiphenylamine (1)	370 U	360 U	380 U	380 U	400 U
4-Bromophenyl-phenylether	370 U	360 U	380 U	380 U	400 U
Hexachlorobenzene	370 U	360 U	380 U	380 U	400 U
Pentachlorophenol	910 U	870 U	920 U	920 U	960 U
Phenanthrene	370 U	360 U	380 U	380 U	400 U
Anthracene	370 U	360 U	380 U	380 U	400 U
Carbazole	370 U	360 U	380 U	380 U	400 U
Di-n-Butylphthalate	370 U	360 U	380 U	380 U	400 U
Fluoranthene	65 J	360 U	380 U	380 U	400 U
Pyrene	52 J	360 U	380 U	380 U	400 U
Butylbenzylphthalate	370 U	360 U	380 U	380 U	400 U
3,3'-Dichlorobenzidine	370 U	360 U	380 U	380 U	400 U
Benzo(a)Anthracene	370 U	360 U	380 U	380 U	400 U
Chrysene	42 J	360 U	380 U	380 U	400 U
bis(2-Ethylhexyl)Phthalate	370 U	360 U	380 U	380 U	400 U
Di-n-Octyl Phthalate	370 U	360 U	380 U	380 U	400 U
Benzo(b)Fluoranthene	370 U	360 U	380 U	380 U	400 U
Benzo(k)Fluoranthene	370 U	360 U	380 U	380 U	400 U
Benzo(a)Pyrene	370 U	360 U	380 U	380 U	400 U
Indeno(1,2,3-cd)Pyrene	370 U	360 U	380 U	380 U	400 U
Dibenz(a,h)Anthracene	370 U	360 U	380 U	380 U	400 U
Benzo(g,h,i)Perylene	370 U	360 U	380 U	380 U	400 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Priority Pollutant Metals FD1281

CLIENT SAMPLE ID>	WV1EB02	WV1EB03	WV1HA0401	WV1HA0402	WV1HA0501	WV1HA0502
LAB SAMPLE ID>	3-114409S	2-114399S	2-114391S	2-114392S	2-114393S	2-114394S
MATRIX>	WATER	WATER	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/17/94	12/17/94	12/17/94	12/17/94	12/17/94
PRCNT SOLIDS>	0.0	0.0	79.2	80.9	79.9	83.1
CONC UNITS>	UG/L	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
SB	25 U	25 U	20.5 J	6.2 UJ	6.6 J	6 UJ
AS	2 U	2 UJ	R	0.8 J	8.4 J	2.7 J
BE	1 U	1 U	0.81	1.2	0.97	1.1
CD	3 U	3 U	14.5	5.7	20.6	7.6
CR	6 U	6 U	43.5	40.3	307	108
CU	3 U	3 U	142 J	35.7 J	397 J	37.4 J
PB	2 U	2 U	124	15.1	651	37.5
HG	0.2 U	0.2 U	0.31 J	0.12 UJ	5 J	2.9 J
NI	15 U	15 U	30.9	28.2	60.2	16.6
SE	2 UJ	2 UJ	0.51 UJ	0.49 UJ	0.5 UJ	0.48 UJ
AG	3 U	3 U	10.8 J	R	29 J	R
TL	2 U	2 U	0.51 U	0.49 U	0.5 U	0.48 U
ZN	5 U	5 U	5990	52.8	3230	131

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Priority Pollutant Metals FD1281

CLIENT SAMPLE ID>	WV1HA0601	WV1HA0602	WV1HA0701	WV1HA0702	WV1HA0801	WV1HA0802
LAB SAMPLE ID>	2-114395S	2-114396S	2-114397S	2-114398S	3-114402S	3-114403S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/17/94	12/17/94	12/17/94	12/17/94	12/19/94	12/19/94
PRCNT SOLIDS>	76.0	75.8	67.0	79.8	87.9	79.6
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	6.6 UJ	6.6 UJ	7.5 UJ	7 J	5.7 UJ	6.3 UJ
AS	3.7 J	3 J	3.3 J	3.9 J	2.2 J	3 J
BE	1.6	1.5	1.3	1.8	1.1	1.4
CD	3.3	4.2	4.9	7.1	5.4	3.8
CR	17.8	19.6	21.2	28.7	19.2	17
CU	21.7 J	31.5 J	23.1 J	23.3 J	29.2 J	16.3 J
PB	16.5	13.3	22.6	15.4	23.4	13.6
HG	0.13 J	0.15 J	0.16 J	0.13 J	0.12 J	0.13 UJ
NI	21.6	19.5	25.3	21	27.3	20
SE	0.62 J	0.53 UJ	0.93 J	0.5 UJ	0.46 UJ	0.5 UJ
AG	R	R	R	R	R	R
TL	0.53 U	0.53 U	0.6 U	0.5 U	0.46 U	0.5 U
ZN	44.6	42.5	77	50.1	57.5	43.3

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

Priority Pollutant Metals FD1281

CLIENT SAMPLE ID>	WV1HA0901	WV1HA0902	WV1HA1001	WV1HA1002	WV153
LAB SAMPLE ID>	3-114404S	3-114406S	3-114407S	3-114408S	3-114405S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
PRCNT SOLIDS>	82.5	91.2	88.0	88.3	86.5
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	6.1 UJ	5.5 UJ	5.7 UJ	5.7 UJ	5.8 UJ
AS	1.8 J	2.9 J	5.1 J	1.5 J	3 J
BE	0.93	0.83	1.2	0.86	0.82
CD	3.3	1.6	3.7	4.3	3.1
CR	19.4	14.3	21.8	17.8	18.5
CU	19.7 J	19.3 J	28.6 J	29.2 J	36.8 J
PB	14.5	11.3	15.5	17.1	22.7
HG	0.13 J	0.15 J	0.14 J	0.11 UJ	0.17 J
NI	19.5	11.6	31.2	15.8	17.5
SE	0.48 UJ	0.44 UJ	0.45 UJ	0.45 UJ	0.94 J
AG	R	R	R	R	R
TL	0.48 U	0.44 U	0.45 U	0.45 U	0.46 U
ZN	42.3	21.5	58.4	49.4	36.4

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1371 Volatile Organics

CLIENT SAMPLE ID>	WV1-SW0102	WV0-TAP02	WV2-SW05	WV2-65	WV0-TB08	WV2-SW106
LAB SAMPLE ID>	121814	121815	121816	121817	121818	121846
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE ANAL.>	04/19/95	04/19/95	04/20/95	04/20/95	04/21/95	04/20/95
DILUTION>	1	1	1	1	1	1
CONC. UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	2 U	2 U	2 U	2 U	3 B	2 U
Acetone	5 R	6 J	190 J	240 J	2 J	5 U
Carbon Disulfide	1 U	1 U	0.4 J	0.3 J	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	96	1 U	1 U	1 U	1 U
1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 J	5 J	59 J	64 J	1 J	5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	5	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.1 J	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	0.2 J	1 U	1 U	1 U
Dibromochloromethane	1 U	15	1 U	1 U	1 U	1 U
1,1,2-Trichloroethene	1 U	1 U	0.3 J	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	2 J	20 J	0.4 J	5 U	5 U
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	0.2 J	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Volatile Organics

CLIENT SAMPLE ID>	WV3TB09	WVB-EB05	WV1-EB07	WV1-TB13	WV2-EB06
LAB SAMPLE ID>	121847	122035	122101	122102	122202
MATRIX>	WATER	WATER	WATER	WATER	WATER
DATE ANAL.>	04/20/95	04/24/95	04/28/95	04/29/95	04/28/95
DILUTION>	1	1	1	1	1
CONC. UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	3	0.3 J	0.4 J	3 B	0.4 J
Acetone	5 R	5 R	3 J	4 J	3 J
Carbon Disulfide	1 U	1 U	0.1 J	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
2-Butanone	1 J	1 J	5 R	4 J	1 J
Bromochloromethane	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dibromoethane	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethene	1 U	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	0.3 J	0.1 J	0.2 J
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Semivolatiles

CLIENT SAMPLE ID>	WV0TAP02	WV1EB07	WV1SW0102	WV265	WV2EB06	WV2SW05
LAB SAMPLE ID>	121815	122101	121814	121817	122202	121816
LAB FILE ID>	F1544	F1540	F1541	F1546	F1654	F1545
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	04/12/95	04/18/95	04/12/95	04/12/95	04/19/95	04/12/95
DATE EXTD>	04/17/95	04/20/95	04/17/95	04/17/95	04/21/95	04/17/95
DATE ANAL>	04/30/95	04/30/95	04/30/95	04/30/95	05/05/95	04/30/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Phenol	10 U	12 U	11 U	11 U	10 U	11 U
bis(2-Chloroethyl)Ether	10 U	12 U	11 U	11 U	10 U	11 U
2-Chlorophenol	10 U	12 U	11 U	11 U	10 U	11 U
1,3-Dichlorobenzene	10 U	12 U	11 U	11 U	10 U	11 U
1,4-Dichlorobenzene	10 U	12 U	11 U	11 U	10 U	11 U
1,2-Dichlorobenzene	10 U	12 U	11 U	11 U	10 U	11 U
2-Methylphenol	10 U	12 U	11 U	11 U	10 U	11 U
2,2'-oxybis(1-Chloropropane	10 U	12 U	11 U	11 U	10 U	11 U
4-Methylphenol	10 U	12 U	11 U	11 U	10 U	11 U
N-Nitroso-Di-n-Propylamine	10 U	12 U	11 U	11 U	10 U	11 U
Hexachloroethane	10 U	12 U	11 U	11 U	10 U	11 U
Nitrobenzene	10 U	1 J	11 U	11 U	10 U	11 U
Isophorone	10 U	12 U	11 U	11 U	10 U	11 U
2-Nitrophenol	10 U	12 U	11 U	11 U	10 U	11 U
2,4-Dimethylphenol	10 U	12 U	11 U	11 U	10 U	11 U
bis(2-Chloroethoxy)Methane	10 U	12 U	11 U	11 U	10 U	11 U
2,4-Dichlorophenol	10 U	12 U	11 U	11 U	10 U	11 U
1,2,4-Trichlorobenzene	10 U	12 U	11 U	11 U	10 U	11 U
Naphthalene	10 U	12 U	11 U	11 U	10 U	11 U
4-Chloroaniline	10 U	12 U	11 U	11 U	10 U	11 U
Hexachlorobutadiene	10 U	12 U	11 U	11 U	10 U	11 U
4-Chloro-3-Methylphenol	10 U	12 U	11 U	11 U	10 U	11 U
2-Methylnaphthalene	10 U	12 U	11 U	11 U	10 U	11 U
Hexachlorocyclopentadiene	10 U	12 U	11 U	11 U	10 U	11 U
2,4,6-Trichlorophenol	10 U	12 U	11 U	11 U	10 U	11 U
2,4,5-Trichlorophenol	25 U	29 U	28 U	28 U	26 U	28 U
2-Chloronaphthalene	10 U	12 U	11 U	11 U	10 U	11 U
2-Nitroaniline	25 U	29 U	28 U	28 U	26 U	28 U
Dimethyl Phthalate	10 U	12 U	11 U	11 U	10 U	11 U
Acenaphthylene	10 U	12 U	11 U	11 U	10 U	11 U
2,6-Dinitrotoluene	10 U	12 U	11 U	11 U	10 U	11 U
3-Nitroaniline	25 U	29 U	28 U	28 U	26 U	28 U
Acenaphthene	10 U	12 U	11 U	11 U	10 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Semivolatiles

CLIENT SAMPLE ID>	WV0TAP02	WV1EB07	WV1SW0102	WV265	WV2EB06	WV2SW05
LAB SAMPLE ID>	121815	122101	121814	121817	122202	121816
LAB FILE ID>	F1544	F1540	F1541	F1546	F1654	F1545
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	04/12/95	04/18/95	04/12/95	04/12/95	04/19/95	04/12/95
DATE EXTD>	04/17/95	04/20/95	04/17/95	04/17/95	04/21/95	04/17/95
DATE ANAL>	04/30/95	04/30/95	04/30/95	04/30/95	05/05/95	04/30/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
2,4-Dinitrophenol	25 U	29 U	28 U	28 U	26 U	28 U
4-Nitrophenol	25 U	29 U	28 U	28 U	26 U	28 U
Dibenzofuran	10 U	12 U	11 U	11 U	10 U	11 U
2,4-Dinitrotoluene	10 U	12 U	11 U	11 U	10 U	11 U
Diethylphthalate	10 U	12 U	11 U	11 U	10 U	11 U
4-Chlorophenyl-phenylether	10 U	12 U	11 U	11 U	10 U	11 U
Fluorene	10 U	12 U	11 U	11 U	10 U	11 U
4-Nitroaniline	25 U	29 U	28 U	28 U	26 U	28 U
4,6-Dinitro-2-Methylphenol	25 U	29 U	28 U	28 U	26 U	28 U
N-Nitrosodiphenylamine (1)	10 U	12 U	11 U	11 U	10 U	11 U
4-Bromophenyl-phenylether	10 U	12 U	11 U	11 U	10 U	11 U
Hexachlorobenzene	10 U	12 U	11 U	11 U	10 U	11 U
Pentachlorophenol	25 U	29 U	28 U	28 U	26 U	28 U
Phenanthrene	10 U	12 U	11 U	11 U	10 U	11 U
Anthracene	10 U	12 U	11 U	11 U	10 U	11 U
Carbazole	10 U	12 U	11 U	11 U	10 U	11 U
Di-n-Butylphthalate	10 U	12 U	11 U	11 U	10 U	11 U
Fluoranthene	10 U	12 U	11 U	11 U	10 U	11 U
Pyrene	10 U	12 U	11 U	11 U	10 U	11 U
Butylbenzylphthalate	10 U	12 U	11 U	11 U	10 U	11 U
3,3'-Dichlorobenzidine	10 U	12 U	11 U	11 U	10 U	11 U
Benzo(a)Anthracene	10 U	12 U	11 U	11 U	10 U	11 U
Chrysene	10 U	12 U	11 U	11 U	10 U	11 U
bis(2-Ethylhexyl)Phthalate	10 U	12 U	11 U	11 U	10 U	11 U
Di-n-Octyl Phthalate	10 U	12 U	11 U	11 U	10 U	11 U
Benzo(b)Fluoranthene	10 U	12 U	11 U	11 U	10 U	11 U
Benzo(k)Fluoranthene	10 U	12 U	11 U	11 U	10 U	11 U
Benzo(a)Pyrene	10 U	12 U	11 U	11 U	10 U	11 U
Indeno(1,2,3-cd)Pyrene	10 U	12 U	11 U	11 U	10 U	11 U
Dibenz(a,h)Anthracene	10 U	12 U	11 U	11 U	10 U	11 U
Benzo(g,h,i)Perylene	10 U	12 U	11 U	11 U	10 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Semivolatiles

CLIENT SAMPLE ID>	WV2SW106	WVBEB05
LAB SAMPLE ID>	121846	122035
LAB FILE ID>	F1547	F1539
MATRIX>	WATER	WATER
DATE RECD>	04/13/95	04/15/95
DATE EXTD>	04/18/95	04/20/95
DATE ANAL>	04/30/95	04/30/95
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
Phenol	11 U	10 U
bis(2-Chloroethyl)Ether	11 U	10 U
2-Chlorophenol	11 U	10 U
1,3-Dichlorobenzene	11 U	10 U
1,4-Dichlorobenzene	11 U	10 U
1,2-Dichlorobenzene	11 U	10 U
2-Methylphenol	11 U	10 U
2,2'-oxybis(1-Chloropropane	11 U	10 U
4-Methylphenol	11 U	10 U
N-Nitroso-Di-n-Propylamine	11 U	10 U
Hexachloroethane	11 U	10 U
Nitrobenzene	11 U	2 J
Isophorone	11 U	10 U
2-Nitrophenol	11 U	10 U
2,4-Dimethylphenol	11 U	10 U
bis(2-Chloroethoxy)Methane	11 U	10 U
2,4-Dichlorophenol	11 U	10 U
1,2,4-Trichlorobenzene	11 U	10 U
Naphthalene	11 U	10 U
4-Chloroaniline	11 U	10 U
Hexachlorobutadiene	11 U	10 U
4-Chloro-3-Methylphenol	11 U	10 U
2-Methylnaphthalene	11 U	10 U
Hexachlorocyclopentadiene	11 U	10 U
2,4,6-Trichlorophenol	11 U	10 U
2,4,5-Trichlorophenol	27 U	25 U
2-Chloronaphthalene	11 U	10 U
2-Nitroaniline	27 U	25 U
Dimethyl Phthalate	11 U	10 U
Acenaphthylene	11 U	10 U
2,6-Dinitrotoluene	11 U	10 U
3-Nitroaniline	27 U	25 U
Acenaphthene	11 U	10 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Semivolatiles

CLIENT SAMPLE ID>	WV2SW106	WVBEB05
LAB SAMPLE ID>	121846	122035
LAB FILE ID>	F1547	F1539
MATRIX>	WATER	WATER
DATE RECD>	04/13/95	04/15/95
DATE EXTD>	04/18/95	04/20/95
DATE ANAL>	04/30/95	04/30/95
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
2,4-Dinitrophenol	27 U	25 U
4-Nitrophenol	27 U	25 U
Dibenzofuran	11 U	10 U
2,4-Dinitrotoluene	11 U	10 U
Diethylphthalate	11 U	10 U
4-Chlorophenyl-phenylether	11 U	10 U
Fluorene	11 U	10 U
4-Nitroaniline	27 U	25 U
4,6-Dinitro-2-Methylphenol	27 U	25 U
N-Nitrosodiphenylamine (1)	11 U	10 U
4-Bromophenyl-phenylether	11 U	10 U
Hexachlorobenzene	11 U	10 U
Pentachlorophenol	27 U	25 U
Phenanthrene	11 U	10 U
Anthracene	11 U	10 U
Carbazole	11 U	10 U
Di-n-Butylphthalate	11 U	10 U
Fluoranthene	11 U	10 U
Pyrene	11 U	10 U
Butylbenzylphthalate	11 U	10 U
3,3'-Dichlorobenzidine	11 U	10 U
Benzo(a)Anthracene	11 U	10 U
Chrysene	11 U	10 U
bis(2-Ethylhexyl)Phthalate	11 U	10 U
Di-n-Octyl Phthalate	11 U	10 U
Benzo(b)Fluoranthene	11 U	10 U
Benzo(k)Fluoranthene	11 U	10 U
Benzo(a)Pyrene	11 U	10 U
Indeno(1,2,3-cd)Pyrene	11 U	10 U
Dibenz(a,h)Anthracene	11 U	10 U
Benzo(g,h,i)Perylene	11 U	10 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 PCB's

CLIENT SAMPLE ID>	WV0TAP02	WV1SW0102	WV265	WV2EB06	WV2SW05	WV2SW106	WVBEB05
LAB SAMPLE ID>	121815	121814	121817	122202	121816	121846	122035
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	04/12/95	04/12/95	04/12/95	04/19/95	04/12/95	04/13/95	04/15/95
DATE EXTD>	04/17/95	04/17/95	04/17/95	04/24/95	04/17/95	04/17/95	04/19/95
DATE ANAL>	04/27/95	04/27/95	04/27/95	04/28/95	04/27/95	04/28/95	04/29/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
AR-1016	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U
AR-1221	2 U	2.3 U	2.2 UJ	2.1 U	2.3 UJ	2.1 U	1.9 U
AR-1232	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U
AR-1242	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U
AR-1248	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U
AR-1254	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U
AR-1260	1 U	1.1 U	1.1 UJ	1 U	1.1 UJ	1 U	0.97 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1371 Metals

CLIENT SAMPLE ID>	EB05	SW0102	SW05	SW106	TAP02	WV1EB07
LAB SAMPLE ID>	4-122035S	9-121814S	9-121816S	1-121846S	9-121815S	7-122101S
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	04/15/95	04/12/95	04/12/95	04/13/95	04/12/95	04/18/95
PRCNT SOLIDS>	0.0	0.0	0.0	0.0	0.0	0.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
SB	50 U	50 U	50 U	50 U	50 U	50 U
AS	2 U	2 U	2 UJ	2 U	2 U	2 U
BE	1 U	1 U	1 U	1 U	1 U	1 U
CD	3.3	3.7 J	3 U	4.4 J	3 U	3 U
CR	5 U	5 U	5 U	5 U	5 U	5 U
CU	4 U	4 U	4 U	7.4 J	41	4 U
PB	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2.2 J
HG	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
NI	25 U	25 U	25 U	25 U	25 U	25 U
SE	2 UJ	3.2 J	2 UJ	2 U	2 U	2 U
AG	3 UJ	3 UJ	3 UJ	4.6 J	3 UJ	5.2 J
TL	2 U	2 UJ	2 UJ	2 U	2 U	2 U
ZN	10.3	6 U	35.8 J	6 U	177	10.3

CLIENT SAMPLE ID>	WV265	WV2EB06
LAB SAMPLE ID>	9-121817S	9-122202S
MATRIX>	WATER	WATER
DATE RECD>	04/12/95	04/19/95
PRCNT SOLIDS>	0.0	0.0
CONC UNITS>	UG/L	UG/L
SB	50 U	50 U
AS	2 UJ	2 U
BE	1 U	1 U
CD	6.3 J	3 U
CR	7.6	5 U
CU	4 U	4 U
PB	2 UJ	2 UJ
HG	0.28 J	0.25 J
NI	25 U	25 U
SE	2 U	2 U
AG	3 UJ	5.2 J
TL	2 U	2 U
ZN	44.9 J	7.2

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1390 Metals

CLIENT SAMPLE ID>	DMW01	DWVB66
LAB SAMPLE ID>	9-122582S	9-122583S
MATRIX>	WATER	WATER
DATE RECD>	04/28/95	04/28/95
PRCNT SOLIDS>	0.0	0.0
CONC UNITS>	UG/L	UG/L
SB	50 U	50 U
AS	2 UJ	2 U
BE	1 U	1 U
CD	3 U	3 U
CR	5 U	5 U
CU	4 U	4 U
PB	2 UJ	2 UJ
HG	0.2 U	0.2 U
NI	25 U	25 U
SE	2 U	2 U
AG	3 J	3 UJ
TL	2 UJ	2 U
ZN	6 U	6 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

VOLATILE ORGANICS FD1279

CLIENT SAMPLE ID>	WV0TAP01	WV0TAP01DL	WV0TB01	WV1SW01	WV1TB02	WV250
LAB SAMPLE ID>	114165	114165DL	114167	114184	114188	114187
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD.>	12/14/94	12/14/94	12/14/94	12/15/94	12/15/94	12/15/94
DATE ANAL.>	12/19/94	12/20/94	12/19/94	12/20/94	12/20/94	12/19/94
DILUTION>	0.6	2.5	0.6	0.6	0.6	0.6
CONC. UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	5 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	5 U	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	5 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	5 U	1 U	1 U	1 U	1 U
Methylene Chloride	0.3 BJ	2 BDJ	0.5 BJ	2 UJ	0.4 BJ	2 UJ
Acetone	1 J	17 BDJ	1 J	5 R	5 R	5 R
Carbon Disulfide	1 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
Chloroform	75	70 D	1 U	1 U	1 U	1 U
1,2-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
2-Butanone	5 R	65 D	5 R	5 R	5 R	5 R
Bromochloromethane	1 U	5 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	5 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	5 U	1 U	1 U	1 U	1 U
Bromodichloromethane	27	23 D	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	5 U	1 U	1 U	1 U	1 U
cis-1,3-Dibromoethane	1 U	5 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	5 U	1 U	1 U	1 U	1 U
Dibromochloromethane	8	6 D	1 U	1 U	1 U	1 U
1,1,2-Trichloroethene	1 U	5 U	1 U	1 U	1 U	1 U
Benzene	1 U	5 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	5 U	1 U	1 U	1 U	1 U
Bromoform	0.5 J	5 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	20 U	5 U	5 U	5 U	5 U
2-Hexanone	5 UJ	20 U	5 UJ	5 R	5 R	5 UJ
Tetrachloroethene	1 U	5 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	5 U	1 U	1 U	1 U	1 U
Toluene	1 U	5 U	1 U	1 U	1 U	0.5 J
Chlorobenzene	1 U	5 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	5 U	1 U	1 U	1 U	0.2 J
Styrene	1 U	5 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	5 U	1 U	1 U	1 U	2
1,2-Dibromo-3-chloropropane	1 U	5 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	5 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	5 U	1 U	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

fd1279vm.wk1

VOLATILE ORGANICS FD1279

CLIENT SAMPLE ID>	WV2EB01	WV2SW01	WV2SW02	WV2SW03	WV2SW04
LAB SAMPLE ID>	114166	114185	114183	114186	114309
MATRIX>	WATER	WATER	WATER	WATER	WATER
DATE RECD.>	12/14/94	12/15/94	12/15/94	12/15/94	12/16/94
DATE ANAL.>	12/19/94	12/19/94	12/19/94	12/19/94	12/20/94
DILUTION>	0.6	0.6	0.6	0.6	0.6
CONC. UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	0.3 BJ	2 UJ	2 UJ	2 UJ	2 UJ
Acetone	2 J	5 R	2 J	2 J	5 R
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Chloroform	0.2 J	1 U	1 U	1 U	1 U
1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
2-Butanone	1 J	5 R	5 R	5 R	5 R
Bromochloromethane	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	0.2 J	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dibromoethane	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	0.2 J	1 U	1 U	1 U	1 U
1,1,2-Trichloroethene	1 U	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	5 R
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	0.3 J	0.5 J	0.4 J
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	0.1 J	1 U
Styrene	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	0.8 J	2	1 J
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1279

CLIENT SAMPLE ID>	WVOTAP01	WV1SW01	WV250	WV2EB01	WV2SW01	WV2SW02
LAB SAMPLE ID>	114165	114184	114187	114166	114185	114185
LAB FILE ID>	J3270	3279	J3282	J3271	J3280	J3276
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	12/14/94	12/15/94	12/15/94	12/14/94	12/15/94	12/15/94
DATE EXTD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE ANAL>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Phenol	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitroso-Di-n-Propylamine	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	24 U	26 U	24 U	24 U	24 U	24 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	24 U	26 U	24 U	24 U	24 U	24 U
Dimethyl Phthalate	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	24 U	26 U	24 U	24 U	24 U	24 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	24 U	26 U	24 U	24 U	24 U	24 U
4-Nitrophenol	24 UJ	26 UJ	24 UJ	24 UJ	24 UJ	24 UJ
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1279

CLIENT SAMPLE ID>	WVOTAP01	WV1SW01	WV250	WV2EB01	WV2SW01	WV2SW02
LAB SAMPLE ID>	114165	114184	114187	114166	114185	114185
LAB FILE ID>	J3270	3279	J3282	J3271	J3280	J3276
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	12/14/94	12/15/94	12/15/94	12/14/94	12/15/94	12/15/94
DATE EXTD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE ANAL>	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94	12/19/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	24 U	26 U	24 U	24 U	24 U	24 U
4,6-Dinitro-2-Methylphenol	24 U	26 U	24 U	24 U	24 U	24 U
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	24 U	26 U	24 U	24 U	24 U	24 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U	3 J	9 J	10 U
Di-n-Octyl Phthalate	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene	10 U	10 U	10 U	10 U	10 U	10 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
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B - Analyte was found in the associated method blank
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Semivolatile Organics CLP FD1279

CLIENT SAMPLE ID>	WV2SW03	WV2SW04
LAB SAMPLE ID>	114186	114309
LAB FILE ID>	J3281	J3283
MATRIX>	WATER	WATER
DATE RECD>	12/15/94	12/16/94
DATE EXTD>	12/16/94	12/16/94
DATE ANAL>	12/19/94	12/19/94
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
Phenol	10 U	9 U
bis(2-Chloroethyl)Ether	10 U	9 U
2-Chlorophenol	10 U	9 U
1,3-Dichlorobenzene	10 U	9 U
1,4-Dichlorobenzene	10 U	9 U
1,2-Dichlorobenzene	10 U	9 U
2-Methylphenol	10 U	9 U
2,2'-oxybis(1-Chloropropane	10 UJ	9 UJ
4-Methylphenol	10 U	9 U
N-Nitroso-Di-n-Propylamine	10 U	9 U
Hexachloroethane	10 U	9 U
Nitrobenzene	10 U	9 U
Isophorone	10 U	9 U
2-Nitrophenol	10 U	9 U
2,4-Dimethylphenol	10 U	9 U
bis(2-Chloroethoxy)Methane	10 U	9 U
2,4-Dichlorophenol	10 U	9 U
1,2,4-Trichlorobenzene	10 U	9 U
Naphthalene	10 U	9 U
4-Chloroaniline	10 U	9 U
Hexachlorobutadiene	10 U	9 U
4-Chloro-3-Methylphenol	10 U	9 U
2-Methylnaphthalene	10 U	9 U
Hexachlorocyclopentadiene	10 U	9 U
2,4,6-Trichlorophenol	24 U	24 U
2,4,5-Trichlorophenol	10 U	9 U
2-Chloronaphthalene	24 U	24 U
2-Nitroaniline	10 U	9 U
Dimethyl Phthalate	10 U	9 U
Acenaphthylene	10 U	9 U
2,6-Dinitrotoluene	24 U	24 U
3-Nitroaniline	10 U	9 U
Acenaphthene	24 U	24 U
2,4-Dinitrophenol	24 UJ	24 UJ
4-Nitrophenol	10 U	9 U
Dibenzofuran	10 U	9 U
2,4-Dinitrotoluene	10 U	9 U
Diethylphthalate	10 U	9 U
4-Chlorophenyl-phenylether		

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1279

CLIENT SAMPLE ID>	WV2SW03	WV2SW04
LAB SAMPLE ID>	114186	114309
LAB FILE ID>	J3281	J3283
MATRIX>	WATER	WATER
DATE RECD>	12/15/94	12/16/94
DATE EXTD>	12/16/94	12/16/94
DATE ANAL>	12/19/94	12/19/94
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
Fluorene	10 U	9 U
4-Nitroaniline	24 U	24 U
4,6-Dinitro-2-Methylphenol	24 U	24 U
N-Nitrosodiphenylamine (1)	10 U	9 U
4-Bromophenyl-phenylether	10 U	9 U
Hexachlorobenzene	10 U	9 U
Pentachlorophenol	24 U	24 U
Phenanthrene	10 U	9 U
Anthracene	10 U	9 U
Carbazole	10 U	9 U
Di-n-Butylphthalate	10 U	9 U
Fluoranthene	10 U	9 U
Pyrene	10 U	9 U
Butylbenzylphthalate	10 U	9 U
3,3'-Dichlorobenzidine	10 U	9 U
Benzo(a)Anthracene	10 U	9 U
Chrysene	10 U	9 U
bis(2-Ethylhexyl)Phthalate	10 U	9 U
Di-n-Octyl Phthalate	10 U	9 U
Benzo(b)Fluoranthene	10 U	9 U
Benzo(k)Fluoranthene	10 U	9 U
Benzo(a)Pyrene	10 U	9 U
Indeno(1,2,3-cd)Pyrene	10 U	9 U
Dibenz(a,h)Anthracene	10 U	9 U
Benzo(g,h,i)Perylene	10 U	9 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCBs CLP FD1279

CLIENT SAMPLE ID>	WV0TAP01	WV1SW01	WV250	WV2EB01	WV2SW01	WV2SW02
LAB SAMPLE ID>	114165	114184	114187	114166	114185	114183
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	12/14/94	12/15/94	12/15/94	12/14/94	12/15/94	12/15/94
DATE EXTD>	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94	12/16/94
DATE ANAL>	12/19/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
AR-1016	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U
AR-1221	1.9 U	2.1 U	1.9 U	1.9 U	2 U	1.9 U
AR-1232	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U
AR-1242	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U
AR-1248	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U
AR-1254	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U
AR-1260	0.95 U	1 U	0.95 U	0.95 U	0.99 U	0.97 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCBs CLP FD1279

CLIENT SAMPLE ID>	WV2SW03	WV2SW04
LAB SAMPLE ID>	114186	114309
MATRIX>	WATER	WATER
DATE RECD>	12/15/94	12/16/94
DATE EXTD>	12/16/94	12/16/94
DATE ANAL>	12/20/94	12/20/94
DILUTION>	1.00	1.00
CONC UNITS>	UG/L	UG/L
AR-1016	0.96 U	0.96 U
AR-1221	1.9 U	1.9 U
AR-1232	0.96 U	0.96 U
AR-1242	0.96 U	0.96 U
AR-1248	0.96 U	0.96 U
AR-1254	0.96 U	0.96 U
AR-1260	0.96 U	0.96 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PRIORITY POLLUTANT METALS FD1279

CLIENT SAMPLE ID>	WV1SW01	WV2EB01	WV2SW01	WV2SW03	WV2SW04	WV2SW02
LAB SAMPLE ID>	5-114184S	7-114166S	5-114185S	5-114186S	9-114309S	5-114183S
MATRIX>	WATER	WATER	WATER	WATER	WATER	WATER
DATE RECD>	12/15/94	12/14/94	12/15/94	12/15/94	12/16/94	12/15/94
PRCNT SOLIDS>	0.0	0.0	0.0	0.0	0.0	0.0
CONC UNITS>	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
SB	25 U	25 U	25 U	25 U	25 U	25 U
AS	2 UJ	2 U	2 U	2 UJ	2 UJ	2 UJ
BE	1 U	1 U	1 U	1 U	1 U	1 U
CD	3 U	3 U	3 U	3 U	3 U	3 U
CR	6 U	6 U	6 U	6 U	6 U	6 U
CU	6.3 J	3 U	3.2 J	3 U	3 U	3 U
PB	2 UJ	2 U	2 U	2 U	2 U	2.4 J
HG	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
NI	15 U	15 U	15 U	15 U	15 U	15 U
SE	2.8	2 U	2 U	2 U	2 U	2 U
AG	3 UJ	3 UJ	3 UJ	8 J	3 UJ	3 UJ
TL	2 U	2 U	2 U	2 U	2 U	2 U
ZN	5 U	5 U	37.9 J	30.4 J	25.3 J	56.2 J

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

PRIORITY POLLUTANT METALS FD1279

CLIENT SAMPLE ID>	WV0TAP01	WV250
LAB SAMPLE ID>	7-114165S	5-114187S
MATRIX>	WATER	WATER
DATE RECD>	12/14/94	12/15/94
PRCNT SOLIDS>	0.0	0.0
CONC UNITS>	UG/L	UG/L
SB	25 U	25 U
AS	2 UJ	2 UJ
BE	1 U	1 U
CD	3 U	3 U
CR	6 U	6 U
CU	3	3 J
PB	2 U	2 U
HG	0.2 U	0.2 U
NI	15 U	15 U
SE	2 U	2 U
AG	3 UJ	3 UJ
TL	2 U	2 U
ZN	245	29.5 J

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1389 Volatiles

CLIENT SAMPLE ID>	TB427	WVB66	WVBEB07	WVBMW01
LAB SAMPLE ID>	122580	122579	122577	122578
LAB FILE ID>	G6802	G6804	G6801	G6803
MATRIX>	WATER	WATER	WATER	WATER
DATE RECD>	04/28/95	04/28/95	04/28/95	04/28/95
DATE EXTD>	NA	NA	NA	NA
DATE ANAL>	05/04/95	05/04/95	05/04/95	05/04/95
DILUTION>	0.6	0.6	0.6	0.6
CONC UNITS>	UG/L	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U
Methylene Chloride	0.6 BJ	2 U	0.2 BJ	2 U
Acetone	5 R	2 J	5 R	5 R
Carbon Disulfide	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U
2-Butanone	5 R	5 R	5 R	5 R
Bromochloromethane	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 UJ	5 UJ	5 UJ	5 UJ
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ
Tetrachloroethene	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1389 Semivolatiles

CLIENT SAMPLE ID>	WVB66	WVBEB07	WVBMW01
LAB SAMPLE ID>	122579	122577	122578
LAB FILE ID>	F1722	J4231	J4232
MATRIX>	WATER	WATER	WATER
DATE RECD>	04/28/95	04/28/95	04/28/95
DATE EXTD>	05/02/95	05/02/95	05/02/95
DATE ANAL>	05/10/95	05/09/95	05/10/95
DILUTION>	1.0	1.0	1.0
%MOIST>			
CONC UNITS>	UG/L	UG/L	UG/L
Phenol	11 U	11 U	12 U
bis(2-Chloroethyl)Ether	11 U	11 U	12 U
2-Chlorophenol	11 U	11 U	12 U
1,3-Dichlorobenzene	11 U	11 U	12 U
1,4-Dichlorobenzene	11 U	11 U	12 U
1,2-Dichlorobenzene	11 U	11 U	12 U
2-Methylphenol	11 U	11 U	12 U
2,2'-oxybis(1-Chloropropane	11 U	11 R	12 R
4-Methylphenol	11 U	11 U	12 U
N-Nitroso-Di-n-Propylamine	11 U	11 U	12 U
Hexachloroethane	11 U	11 U	12 U
Nitrobenzene	11 U	11 U	12 U
Isophorone	11 U	11 U	12 U
2-Nitrophenol	11 U	11 U	12 U
2,4-Dimethylphenol	11 U	11 U	12 U
bis(2-Chloroethoxy)Methane	11 U	11 U	12 U
2,4-Dichlorophenol	11 U	11 U	12 U
1,2,4-Trichlorobenzene	11 U	11 U	12 U
Naphthalene	11 U	11 U	12 U
4-Chloroaniline	11 U	11 U	12 U
Hexachlorobutadiene	11 U	11 U	12 U
4-Chloro-3-Methylphenol	11 U	11 U	12 U
2-Methylnaphthalene	11 U	11 U	12 U
Hexachlorocyclopentadiene	11 U	11 U	12 U
2,4,6-Trichlorophenol	11 U	11 U	12 U
2,4,5-Trichlorophenol	28 U	26 U	29 U
2-Chloronaphthalene	11 U	11 U	12 U
2-Nitroaniline	28 U	26 U	29 U
Dimethyl Phthalate	11 U	11 U	12 U
Acenaphthylene	11 U	11 U	12 U
2,6-Dinitrotoluene	11 U	11 U	12 U
3-Nitroaniline	28 U	26 U	29 U
Acenaphthene	11 U	11 U	12 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

fd1389sv.wk1

FD1389 Semivolatiles

CLIENT SAMPLE ID>	WVB66	WVBEB07	WVBMW01
LAB SAMPLE ID>	122579	122577	122578
LAB FILE ID>	F1722	J4231	J4232
MATRIX>	WATER	WATER	WATER
DATE RECD>	04/28/95	04/28/95	04/28/95
DATE EXTD>	05/02/95	05/02/95	05/02/95
DATE ANAL>	05/10/95	05/09/95	05/10/95
DILUTION>	1.0	1.0	1.0
%MOIST>			
CONC UNITS>	UG/L	UG/L	UG/L
2,4-Dinitrophenol	28 U	26 U	29 U
4-Nitrophenol	28 U	26 U	29 U
Dibenzofuran	11 U	11 U	12 U
2,4-Dinitrotoluene	11 U	11 U	12 U
Diethylphthalate	11 U	11 U	12 U
4-Chlorophenyl-phenylether	11 U	11 U	12 U
Fluorene	11 U	11 U	12 U
4-Nitroaniline	28 U	26 U	29 U
4,6-Dinitro-2-Methylphenol	28 U	26 U	29 U
N-Nitrosodiphenylamine (1)	11 U	11 U	12 U
4-Bromophenyl-phenylether	11 U	11 U	12 U
Hexachlorobenzene	11 U	11 U	12 U
Pentachlorophenol	28 U	26 U	29 U
Phenanthrene	11 U	11 U	12 U
Anthracene	11 U	11 U	12 U
Carbazole	11 U	11 U	12 U
Di-n-Butylphthalate	11 U	11 U	12 U
Fluoranthene	11 U	11 U	12 U
Pyrene	11 U	11 U	12 U
Butylbenzylphthalate	11 U	11 U	12 U
3,3'-Dichlorobenzidine	11 U	11 U	12 U
Benzo(a)Anthracene	11 U	11 U	12 U
Chrysene	11 U	11 U	12 U
bis(2-Ethylhexyl)Phthalate	11 U	11 U	12 U
Di-n-Octyl Phthalate	11 U	11 U	12 U
Benzo(b)Fluoranthene	11 U	11 U	12 U
Benzo(k)Fluoranthene	11 U	11 U	12 U
Benzo(a)Pyrene	11 U	11 U	12 U
Indeno(1,2,3-cd)Pyrene	11 U	11 U	12 U
Dibenz(a,h)Anthracene	11 U	11 U	12 U
Benzo(g,h,i)Perylene	11 U	11 U	12 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1389 PCB's

CLIENT SAMPLE ID>	WVB66	WVBEB07	WVBMW01
LAB SAMPLE ID>	122579	122577	122578
MATRIX>	WATER	WATER	WATER
DATE RECD>	04/28/95	04/28/95	04/28/95
DATE EXTD>	05/02/95	05/02/95	05/02/95
DATE ANAL>	05/05/95	05/05/95	05/05/95
DILUTION>	1.00	1.00	1.00
CONC UNITS>	UG/L	UG/L	UG/L
AR-1016	1.2 U	1.1 U	1.1 U
AR-1221	2.3 U	2.1 U	2.2 U
AR-1232	1.2 U	1.1 U	1.1 U
AR-1242	1.2 U	1.1 U	1.1 U
AR-1248	1.2 U	1.1 U	1.1 U
AR-1254	1.2 U	1.1 U	1.1 U
AR-1260	1.2 U	1.1 U	1.1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1389 Metals

CLIENT SAMPLE ID>	MW01	WVB66	WVBEBO7
LAB SAMPLE ID>	8-122578S	8-122579S	8-122577S
MATRIX>	WATER	WATER	WATER
DATE RECD>	04/28/95	04/28/95	04/28/95
PRCNT SOLIDS>	0.0	0.0	0.0
CONC UNITS>	UG/L	UG/L	UG/L
SB	50 U	50 U	50 U
AS	2 UJ	2 U	2 U
BE	1 U	1 U	1 U
CD	3 U	3 U	3 U
CR	5 U	5 U	5 U
CU	8.8 J	9.7 J	4 U
PB	8.6 J	5.8 J	2 UJ
HG	0.2 U	0.2 U	0.2 U
NI	25 U	25 U	25 U
SE	2 U	2 U	2 U
AG	3 UJ	3 U	3 UJ
TL	2 U	2 U	2 UJ
ZN	22.1 J	24.4 J	6 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1437 Volatile Organics

FD1437 Volatile Organics

CLIENT SAMPLE ID>	TRIPBLANK	WVBMW102	WVBMW103
LAB SAMPLE ID>	124570	124526	124525
LAB FILE ID>	G6729	G6726	G6725
MATRIX>	WATER	WATER	WATER
DATE RECD>	06/03/95	06/03/95	06/03/95
DATE EXTD>	NA	NA	NA
DATE ANAL>	06/12/95	06/12/95	06/12/95
DILUTION>	0.6	0.6	0.6
CONC UNITS>	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U
Methylene Chloride	3 B	2 U	2 U
Acetone	5 R	5 R	5 R
Carbon Disulfide	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U
2-Butanone	5 R	5 R	5 R
Bromochloromethane	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U
1,2-Dibromoethane	0.1 BJ	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U
1,1,2-Trichloroethane	0.2 BJ	1 U	1 U
Benzene	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 UJ	5 UJ	5 UJ
2-Hexanone	5 UJ	5 UJ	5 UJ
Tetrachloroethene	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U
Toluene	0.2 J	1 U	2
Chlorobenzene	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U
Styrene	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD 1437 Semivolatiles

CLIENT SAMPLE ID>	WVBMW0102	WVBMW103

FD 1437 Semivolatiles

CLIENT SAMPLE ID>	WVBMW0102	WVBMW103
LAB SAMPLE ID>	124526	124525
LAB FILE ID>	F2076	F2075
MATRIX>	WATER	WATER
DATE RECD>	06/03/95	06/03/95
DATE EXTD>	06/07/95	06/07/95
DATE ANAL>	06/13/95	06/13/95
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
Phenol	10 U	12 U
bis(2-Chloroethyl)Ether	10 U	12 U
2-Chlorophenol	10 U	12 U
1,3-Dichlorobenzene	10 U	12 U
1,4-Dichlorobenzene	10 U	12 U
1,2-Dichlorobenzene	10 U	12 U
2-Methylphenol	10 U	12 U
2,2'-oxybis(1-Chloropropane	10 UJ	12 UJ
4-Methylphenol	10 U	12 U
N-Nitroso-Di-n-Propylamine	10 U	12 U
Hexachloroethane	10 U	12 U
Nitrobenzene	10 U	12 U
Isophorone	10 U	12 U
2-Nitrophenol	10 U	12 U
2,4-Dimethylphenol	10 U	12 U
bis(2-Chloroethoxy)Methane	10 U	12 U
2,4-Dichlorophenol	10 U	12 U
1,2,4-Trichlorobenzene	10 U	12 U
Naphthalene	10 U	12 U
4-Chloroaniline	10 U	12 U
Hexachlorobutadiene	10 U	12 U
4-Chloro-3-Methylphenol	10 U	12 U
2-Methylnaphthalene	10 U	12 U
Hexachlorocyclopentadiene	10 U	12 U
2,4,6-Trichlorophenol	10 U	12 U
2,4,5-Trichlorophenol	26 U	30 U
2-Chloronaphthalene	10 U	12 U
2-Nitroaniline	26 U	30 U
Dimethyl Phthalate	10 U	12 U
Acenaphthylene	10 U	12 U
2,6-Dinitrotoluene	10 U	12 U
3-Nitroaniline	26 U	30 U
Acenaphthene	10 U	12 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD 1437 Semivolatiles

CLIENT SAMPLE ID>	WVBMW0102	WVBMW103

FD 1437 Semivolatiles

CLIENT SAMPLE ID>	WVBMW0102	WVBMW103
LAB SAMPLE ID>	124526	124525
LAB FILE ID>	F2076	F2075
MATRIX>	WATER	WATER
DATE RECD>	06/03/95	06/03/95
DATE EXTD>	06/07/95	06/07/95
DATE ANAL>	06/13/95	06/13/95
DILUTION>	1.0	1.0
CONC UNITS>	UG/L	UG/L
Phenol	10 U	12 U
bis(2-Chloroethyl)Ether	10 U	12 U
2-Chlorophenol	10 U	12 U
1,3-Dichlorobenzene	10 U	12 U
1,4-Dichlorobenzene	10 U	12 U
1,2-Dichlorobenzene	10 U	12 U
2-Methylphenol	10 U	12 U
2,2'-oxybis(1-Chloropropane	10 UJ	12 UJ
4-Methylphenol	10 U	12 U
N-Nitroso-Di-n-Propylamine	10 U	12 U
Hexachloroethane	10 U	12 U
Nitrobenzene	10 U	12 U
Isophorone	10 U	12 U
2-Nitrophenol	10 U	12 U
2,4-Dimethylphenol	10 U	12 U
bis(2-Chloroethoxy)Methane	10 U	12 U
2,4-Dichlorophenol	10 U	12 U
1,2,4-Trichlorobenzene	10 U	12 U
Naphthalene	10 U	12 U
4-Chloroaniline	10 U	12 U
Hexachlorobutadiene	10 U	12 U
4-Chloro-3-Methylphenol	10 U	12 U
2-Methylnaphthalene	10 U	12 U
Hexachlorocyclopentadiene	10 U	12 U
2,4,6-Trichlorophenol	10 U	12 U
2,4,5-Trichlorophenol	26 U	30 U
2-Chloronaphthalene	10 U	12 U
2-Nitroaniline	26 U	30 U
Dimethyl Phthalate	10 U	12 U
Acenaphthylene	10 U	12 U
2,6-Dinitrotoluene	10 U	12 U
3-Nitroaniline	26 U	30 U
Acenaphthene	10 U	12 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1437
Pesticides & PCB's

CLIENT SAMPLE ID>	WVBMW102	WVBMW103
LAB SAMPLE ID>	124526	124525
MATRIX>	WATER	WATER
DATE RECD>	06/03/95	06/03/95
DATE EXTD>	06/07/95	06/07/95
DATE ANAL>	06/13/95	06/13/95
DILUTION>	1.00	1.00
CONC UNITS>	UG/L	UG/L
AR-1016	1.1 U	1.1 U
AR-1221	2.2 U	2.2 U
AR-1232	1.1 U	1.1 U
AR-1242	1.1 U	1.1 U
AR-1248	1.1 U	1.1 U
AR-1254	1.1 U	1.1 U
AR-1260	1.1 U	1.1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD 1437 Metals

CLIENT SAMPLE ID>	**MW102**	**MW103**	**MW102 Dissolved**
LAB SAMPLE ID>	2-124526S	2-124525S	1245595
MATRIX>	WATER	WATER	WATER
DATE RECD>	06/03/95	06/03/95	06/03/95
PRCNT SOLIDS>	0.0	0.0	0.0
CONC UNITS>	UG/L	UG/L	UG/L
SB	50 U	50 U	50 U
AS	2 UJ	2 U	2 U
BE	1 U	1 U	1 U
CD	3 U	3 U	3 U
CR	5 U	5 U	5 U
CU	7.3	4 U	4 U
PB	2 UJ	2 UJ	2 UJ
HG	0.2 U	0.2 U	0.2 U
NI	25 U	25 U	25 U
SE	2 U	2 U	2.2 J
AG	3 U	3 U	3 U
TL	2 U	3 J	2 U
ZN	8.8 J	6.1 J	6 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

Volatile Organics CLP FD1298

CLIENT SAMPLE ID>	WV356	WV3HA0101	WV3HA0301	WV3HA0302	WVTB07
LAB SAMPLE ID>	114571	114573	114570	114572	114575
MATRIX>	SOIL	SOIL	SOIL	SOIL	WATER
DATE RECD>	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
DATE ANAL>	01/03/95	01/03/95	01/03/95	01/03/95	12/23/94
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	10	12	10	14	
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/L
Chloromethane	11 U	11 U	11 U	12 U	1 U
Bromomethane	11 U	11 U	11 U	12 U	1 U
Vinyl Chloride	11 U	11 U	11 U	12 U	1 U
Chloroethane	11 U	11 U	11 U	12 U	1 U
Methylene Chloride	2 BJ	2 BJ	2 BJ	1 BJ	0.7 BJ
Acetone	11 U	11 U	3 J	12 U	5 U
Carbon Disulfide	11 U	11 U	11 U	12 U	1 U
1,1-Dichloroethene	11 U	11 U	11 U	12 U	1 U
1,1-Dichloroethane	11 U	11 U	11 U	12 U	1 U
1,2-Dichloroethene (total)	11 U	11 U	11 U	12 U	1 U
Chloroform	11 U	11 U	11 U	12 U	1 U
1,2-Dichloroethane	11 U	11 U	11 U	12 U	1 U
2-Butanone	11 U	11 U	11 U	12 U	5 U
1,1,1-Trichloroethane	11 U	11 U	11 U	12 U	1 U
Carbon Tetrachloride	11 U	11 U	11 U	12 U	1 U
Bromodichloromethane	11 U	11 U	11 U	12 U	1 U
1,2-Dichloropropane	11 U	11 U	11 U	12 U	1 U
cis-1,3-Dichloropropene	11 U	11 U	11 U	12 U	1 U
Trichloroethene	11 U	11 U	11 U	12 U	1 U
Dibromochloromethane	11 U	11 U	11 U	12 U	1 U
1,1,2-Trichloroethane	11 U	11 U	11 U	12 U	1 U
Benzene	11 U	11 U	11 U	12 U	1 U
trans-1,3-Dichloropropene	11 U	11 U	11 U	12 U	1 U
Bromoform	11 U	11 U	11 U	12 U	1 U
4-Methyl-2-Pentanone	11 U	11 U	11 U	12 U	5 U
2-Hexanone	11 U	11 U	11 U	12 U	5 U
Tetrachloroethene	11 U	11 U	11 U	12 U	1 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	12 U	1 U
Toluene	11 U	11 U	11 U	12 U	1 U
Chlorobenzene	11 U	11 U	11 U	12 U	1 U
Ethylbenzene	11 U	11 U	11 U	12 U	1 U
Styrene	11 U	11 U	11 U	12 U	1 U
Xylene (total)	11 U	11 U	11 U	12 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics FD1298

CLIENT SAMPLE ID>	WV356	WV3EB05	WV3HA0101	WV3HA0301	WV3HA0302
LAB SAMPLE ID>	114571	114574	114573	114570	114572
MATRIX>	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
DATE EXTD>	12/31/94	12/21/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/18/95	12/28/94	01/18/95	01/18/95	01/18/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	10		12	10	14
CONC UNITS>	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
Phenol	370 U	10 U	370 U	370 U	380 U
bis(2-Chloroethyl)Ether	370 U	10 U	370 U	370 U	380 U
2-Chlorophenol	370 U	10 U	370 U	370 U	380 U
1,3-Dichlorobenzene	370 U	10 U	370 U	370 U	380 U
1,4-Dichlorobenzene	370 U	10 U	370 U	370 U	380 U
1,2-Dichlorobenzene	370 U	10 U	370 U	370 U	380 U
2-Methylphenol	370 U	10 U	370 U	370 U	380 U
2,2'-oxybis(1-Chloropropane	370 U	10 U	370 U	370 U	380 U
4-Methylphenol	370 U	10 U	370 U	370 U	380 U
N-Nitroso-Di-n-Propylamine	370 U	10 U	370 U	370 U	380 U
Hexachloroethane	370 U	10 U	370 U	370 U	380 U
Nitrobenzene	370 U	10 U	370 U	370 U	380 U
Isophorone	370 U	10 U	370 U	370 U	380 U
2-Nitrophenol	370 U	10 U	370 U	370 U	380 U
2,4-Dimethylphenol	370 U	10 U	370 U	370 U	380 U
bis(2-Chloroethoxy)Methane	370 U	10 U	370 U	370 U	380 U
2,4-Dichlorophenol	370 U	10 U	370 U	370 U	380 U
1,2,4-Trichlorobenzene	370 U	10 U	370 U	370 U	380 U
Naphthalene	370 U	10 U	370 U	370 U	380 U
4-Chloroaniline	370 U	10 U	370 U	370 U	380 U
Hexachlorobutadiene	370 U	10 U	370 U	370 U	380 U
4-Chloro-3-Methylphenol	370 U	10 U	370 U	370 U	380 U
2-Methylnaphthalene	370 U	10 U	370 U	370 U	380 U
Hexachlorocyclopentadiene	370 U	10 U	370 U	370 U	380 U
2,4,6-Trichlorophenol	370 U	10 U	370 U	370 U	380 U
2,4,5-Trichlorophenol	890 U	24 U	910 U	890 U	930 U
2-Chloronaphthalene	370 U	10 U	370 U	370 U	380 U
2-Nitroaniline	890 U	24 U	910 U	890 U	930 U
Dimethyl Phthalate	370 U	10 U	370 U	370 U	380 U
Acenaphthylene	370 U	10 U	370 U	370 U	380 U
2,6-Dinitrotoluene	370 U	10 U	370 U	370 U	380 U
3-Nitroaniline	890 U	24 U	910 U	890 U	930 U
Acenaphthene	370 U	10 U	370 U	370 U	380 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics FD1298

CLIENT SAMPLE ID>	WV356	WV3EB05	WV3HA0101	WV3HA0301	WV3HA0302
LAB SAMPLE ID>	114571	114574	114573	114570	114572
MATRIX>	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
DATE EXTD>	12/31/94	12/21/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/18/95	12/28/94	01/18/95	01/18/95	01/18/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	10		12	10	14
CONC UNITS>	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	890 U	24 U	910 U	890 U	930 U
4-Nitrophenol	890 U	24 U	910 U	890 U	930 U
Dibenzofuran	370 U	10 U	370 U	370 U	380 U
2,4-Dinitrotoluene	370 U	10 U	370 U	370 U	380 U
Diethylphthalate	370 U	10 U	370 U	370 U	380 U
4-Chlorophenyl-phenylether	370 U	10 U	370 U	370 U	380 U
Fluorene	370 U	10 U	370 U	370 U	380 U
4-Nitroaniline	890 U	24 U	910 U	890 U	930 U
4,6-Dinitro-2-Methylphenol	890 U	24 U	910 U	890 U	930 U
N-Nitrosodiphenylamine (1)	370 U	10 U	370 U	370 U	380 U
4-Bromophenyl-phenylether	370 U	10 U	370 U	370 U	380 U
Hexachlorobenzene	370 U	10 U	370 U	370 U	380 U
Pentachlorophenol	890 U	24 U	910 U	890 U	930 U
Phenanthrene	370 U	10 U	370 U	370 U	380 U
Anthracene	370 U	10 U	370 U	370 U	380 U
Carbazole	370 U	10 U	370 U	370 U	380 U
Di-n-Butylphthalate	370 U	10 U	370 U	370 U	380 U
Fluoranthene	370 U	10 U	370 U	370 U	380 U
Pyrene	370 U	10 U	370 U	370 U	380 U
Butylbenzylphthalate	370 U	10 U	370 U	370 U	380 U
3,3'-Dichlorobenzidine	370 U	10 U	370 U	370 U	380 U
Benzo(a)Anthracene	370 U	10 U	370 U	370 U	380 U
Chrysene	370 U	10 U	370 U	370 U	380 U
bis(2-Ethylhexyl)Phthalate	370 U	10 U	370 U	370 U	380 U
Di-n-Octyl Phthalate	370 U	10 U	370 U	370 U	380 U
Benzo(b)Fluoranthene	370 U	10 U	370 U	370 U	380 U
Benzo(k)Fluoranthene	370 U	10 U	370 U	370 U	380 U
Benzo(a)Pyrene	370 U	10 U	370 U	370 U	380 U
Indeno(1,2,3-cd)Pyrene	370 U	10 U	370 U	370 U	380 U
Dibenz(a,h)Anthracene	370 U	10 U	370 U	370 U	380 U
Benzo(g,h,i)Perylene	370 U	10 U	370 U	370 U	380 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCB Organics CLP FD1298

CLIENT SAMPLE ID>	WV356	WV3EB05	WV3HA0101	WV3HA0301	WV3HA0302
LAB SAMPLE ID>	114571	114574	114573	114570	114572
MATRIX>	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
DATE EXTD>	12/29/94	12/22/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/14/95	01/06/95	01/14/95	01/14/95	01/14/95
DILUTION>	1.00	1.00	1.00	1.00	1.00
%MOIST>	10		12	10	14
CONC UNITS>	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
AR-1016	37 U	1 U	37 U	37 U	38 U
AR-1221	74 U	2 U	76 U	74 U	78 U
AR-1232	37 U	1 U	37 U	37 U	38 U
AR-1242	37 U	1 U	37 U	37 U	38 U
AR-1248	37 U	1 U	37 U	37 U	38 U
AR-1254	37 U	1 U	37 U	37 U	38 U
AR-1260	37 U	1 U	37 U	37 U	38 U

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Priority Pollutant Metals FD1298

CLIENT SAMPLE ID>	WV3-EB05	WV3-HA0101	WV3-HA0301	WV3-HA0302	WV3-56
LAB SAMPLE ID>	8-114574S	8-114573S	8-114570S	8-114572S	8-114571S
MATRIX>	WATER	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
PRCNT SOLIDS>	0.0	86.1	89.6	86.6	89.5
CONC UNITS>	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
SB	25 U	R	R	R	R
AS	2 U	6.9 J	9.9 J	2.7 J	9.2 J
BE	1 U	1	1.2	1.1	1.3
CD	3 U	3.3	5.4	3.7	4.6
CR	6 U	16.5	15.5 J	18.7	20.3
CU	5	28	55	38.9	66.8
PB	2 U	13.7 J	15.5	18.1 J	12.6 J
HG	0.2 U	0.12 U	0.18	0.12 U	0.13
NI	15 U	28.6	39.4	28.4	38.3
SE	2 UJ	0.46 U	0.86 J	0.46 U	0.49 J
AG	3 U	0.7 UJ	0.67 UJ	0.69 UJ	0.67 UJ
TL	2 U	0.46 U	0.45 U	0.46 U	0.45 U
ZN	16.7	48.2	57.4	50.5	56.7

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FD1372 Volatile Organics

CLIENT SAMPLE ID>	WVB57	WV358	WV3SB0101	WV3SB0103	WV3SB0201	WVBSB0201
LAB SAMPLE ID>	121912	122052	121858	121908	121909	121914
LAB FILE ID>	H3151	H3208	H3148	H3109	H3150	H3227
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/15/95	04/13/95	04/14/95	04/14/95	04/14/95
DATE EXTD>	NA	NA	NA	NA	NA	NA
DATE ANAL>	04/21/95	04/24/95	04/21/95	04/19/95	04/21/95	04/25/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	10	6	12	12	11	18
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	11 U	11 U	11 U	11 U	12 U
Bromomethane	11 U	11 U	11 U	11 U	11 U	12 U
Vinyl Chloride	11 U	11 U	11 U	11 U	11 U	12 U
Chloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Methylene Chloride	11 U	11 U	11 U	11 U	11 U	12 U
Acetone	11 U	11 U	5 J	11 U	11 U	12 U
Carbon Disulfide	11 U	11 U	11 U	11 U	11 U	12 U
1,1-Dichloroethene	11 U	11 U	11 U	11 U	11 U	12 U
1,1-Dichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
1,2-Dichloroethene (total)	11 U	11 U	11 U	11 U	11 U	12 U
Chloroform	11 U	11 U	11 U	11 U	11 U	12 U
1,2-Dichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
2-Butanone	11 U	11 U	11 U	11 U	11 U	12 U
1,1,1-Trichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Carbon Tetrachloride	11 U	11 U	11 U	11 U	11 U	12 U
Bromodichloromethane	11 U	11 U	11 U	11 U	11 U	12 U
1,2-Dichloropropane	11 U	11 U	11 U	11 U	11 U	12 U
cis-1,3-Dichloropropene	11 U	11 U	11 U	11 U	11 U	12 U
Trichloroethene	11 U	11 U	11 U	11 U	11 U	12 U
Dibromochloromethane	11 U	11 U	11 U	11 U	11 U	12 U
1,1,2-Trichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Benzene	11 U	11 U	11 U	11 U	11 U	12 U
trans-1,3-Dichloropropene	11 U	11 U	11 U	11 U	11 U	12 U
Bromoform	11 U	11 U	11 U	11 U	11 U	12 U
4-Methyl-2-Pentanone	11 U	11 U	11 U	11 U	11 U	12 U
2-Hexanone	11 U	11 U	11 U	11 U	11 U	12 U
Tetrachloroethene	11 U	11 U	11 U	11 U	11 U	12 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Toluene	11 U	1 J	1 J	11 U	11 U	12 U
Chlorobenzene	11 U	11 U	11 U	11 U	11 U	12 U
Ethylbenzene	11 U	2 J	11 U	11 U	11 U	12 U
Styrene	11 U	11 U	11 U	11 U	11 U	12 U
Xylene (total)	11 U	3 J	11 U	11 U	11 U	12 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 Volatile Organics

CLIENT SAMPLE ID>	WV3SB0203	WV3SB0301	WVBSB0301	WV3SB0302	WV4SB0202	WV4SB0203
LAB SAMPLE ID>	121911	122051	121913	122053	122055	122056
LAB FILE ID>	H3134	H3116	H3207	H3118	H3167	H3168
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/15/95	04/14/95	04/15/95	04/15/95	04/15/95
DATE EXTD>	NA	NA	NA	NA	NA	NA
DATE ANAL>	04/20/95	04/19/95	04/24/95	04/20/95	04/22/95	04/22/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	11	12	10	11	9	14
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	11 U	11 U	11 U	11 U	12 U
Bromomethane	11 U	11 U	11 U	11 U	11 U	12 U
Vinyl Chloride	11 U	11 U	11 U	11 U	11 U	12 U
Chloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Methylene Chloride	11 U	11 U	11 U	11 U	11 U	12 U
Acetone	11 U	11 U	11 U	20 U	11 U	79
Carbon Disulfide	11 U	11 U	11 U	11 U	11 U	12 U
1,1-Dichloroethene	11 U	11 U	11 U	11 U	11 U	12 U
1,1-Dichloroethane	11 U	11 U	11 U	2 J	11 U	12 U
1,2-Dichloroethene (total)	11 U	11 U	11 U	11 U	4 J	9 J
Chloroform	11 U	11 U	11 U	11 U	11 U	12 U
1,2-Dichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
2-Butanone	11 U	11 U	11 U	11 U	11 U	12
1,1,1-Trichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Carbon Tetrachloride	11 U	11 U	11 U	11 U	11 U	12 U
Bromodichloromethane	11 U	11 U	11 U	11 U	11 U	12 U
1,2-Dichloropropane	11 U	11 U	11 U	11 U	11 U	12 U
cis-1,3-Dichloropropene	11 U	11 U	11 U	11 U	11 U	12 U
Trichloroethene	11 U	11 U	11 U	11 U	7 J	3 J
Dibromochloromethane	11 U	11 U	11 U	11 U	11 U	12 U
1,1,2-Trichloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Benzene	11 U	11 U	11 U	11 U	11 U	12 U
trans-1,3-Dichloropropene	11 U	11 U	11 U	11 U	11 U	12 U
Bromoform	11 U	11 U	11 U	11 U	11 U	12 U
4-Methyl-2-Pentanone	11 U	11 U	11 U	11 U	11 U	12 U
2-Hexanone	11 U	11 U	11 U	11 U	11 U	12 U
Tetrachloroethene	11 U	11 U	11 U	11 U	2 J	12 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	11 U	11 U	12 U
Toluene	11 U	11 U	11 U	1 J	1 J	12 U
Chlorobenzene	11 U	11 U	11 U	11 U	11 U	12 U
Ethylbenzene	11 U	11 U	11 U	11 U	11 U	12 U
Styrene	11 U	11 U	11 U	11 U	11 U	12 U
Xylene (total)	11 U	11 U	11 U	11 U	11 U	12 U

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R - Data are unuseable, resampling and reanalysis required for verification
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B - Analyte was found in the associated method blank
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FD1372 Volatile Organics

CLIENT SAMPLE ID>	WV4SB0302	WV4SB0303	WVBSB0101
LAB SAMPLE ID>	122054	122057	121857
LAB FILE ID>	H3166	H3169	H3100
MATRIX>	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/13/95
DATE EXTD>	NA	NA	NA
DATE ANAL>	04/22/95	04/22/95	04/18/95
DILUTION>	1.0	1.0	1.0
%MOIST>	12	8	7
CONC UNITS>	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	11 U	11 U
Bromomethane	11 U	11 U	11 U
Vinyl Chloride	11 U	11 U	11 U
Chloroethane	11 U	11 U	11 U
Methylene Chloride	11 U	11 U	11 U
Acetone	14 U	6 J	11 U
Carbon Disulfide	11 U	11 U	11 U
1,1-Dichloroethene	11 U	11 U	11 U
1,1-Dichloroethane	11 U	11 U	11 U
1,2-Dichloroethene (total)	11 U	2 J	11 U
Chloroform	11 U	11 U	11 U
1,2-Dichloroethane	11 U	11 U	11 U
2-Butanone	11 U	11 U	11 U
1,1,1-Trichloroethane	11 U	11 U	11 U
Carbon Tetrachloride	11 U	11 U	11 U
Bromodichloromethane	11 U	11 U	11 U
1,2-Dichloropropane	11 U	11 U	11 U
cis-1,3-Dichloropropene	11 U	11 U	11 U
Trichloroethene	11 U	16	11 U
Dibromochloromethane	11 U	11 U	11 U
1,1,2-Trichloroethane	11 U	11 U	11 U
Benzene	11 U	11 U	11 U
trans-1,3-Dichloropropene	11 U	11 U	11 U
Bromoform	11 U	11 U	11 U
4-Methyl-2-Pentanone	11 U	11 U	11 U
2-Hexanone	11 U	11 U	11 U
Tetrachloroethene	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U
Toluene	1 J	4 J	2 J
Chlorobenzene	11 U	11 U	11 U
Ethylbenzene	11 U	11 U	11 U
Styrene	11 U	11 U	11 U
Xylene (total)	11 U	11 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 Volatile Organics

CLIENT SAMPLE ID>	WV3TB10
LAB SAMPLE ID>	121915
LAB FILE ID>	G6670
MATRIX>	WATER
DATE RECD>	04/14/95
DATE EXTD>	NA
DATE ANAL>	04/24/95
DILUTION>	0.6
CONC UNITS>	UG/L

Chloromethane	1 U
Bromomethane	1 U
Vinyl Chloride	1 U
Chloroethane	1 U
Methylene Chloride	3 J
Acetone	3 BJ
Carbon Disulfide	1 U
1,1-Dichloroethene	1 U
1,1-Dichloroethane	1 U
Trans-1,2-Dichloroethene	1 U
Cis-1,2-Dichloroethene	1 U
Chloroform	1 U
1,2-Dichloroethane	1 U
2-Butanone	1 BJ
Bromochloromethane	1 U
1,1,1-Trichloroethane	1 U
Carbon Tetrachloride	1 U
Bromodichloromethane	1 U
1,2-Dichloropropane	1 U
cis-1,3-Dichloropropene	1 U
Trichloroethene	1 U
1,2-Dibromoethane	1 U
Dibromochloromethane	1 U
1,1,2-Trichloroethane	1 U
Benzene	1 U
trans-1,3-Dichloropropene	1 U
Bromoform	1 U
4-Methyl-2-Pentanone	5 U
2-Hexanone	5 UJ
Tetrachloroethene	1 U
1,1,2,2-Tetrachloroethane	1 U
Toluene	1 U
Chlorobenzene	1 U
Ethylbenzene	1 U
Styrene	1 U
Xylene (total)	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 Semivolatiles

CLIENT SAMPLE ID>	WVB57	WV358	WV3SB0101	WV3SB0102	WV3SB0103	WV3SB0201
LAB SAMPLE ID>	121912	122052	121858	121859	121908	121909
LAB FILE ID>	F1599	F1575	F1616	F1594	F1595	F1596
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/15/95	04/13/95	04/13/95	04/14/95	04/14/95
DATE EXTD>	04/21/95	04/26/95	04/21/95	04/21/95	04/21/95	04/21/95
DATE ANAL>	05/03/95	05/02/95	05/04/95	05/03/95	05/03/95	05/03/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	10	11	12	10	12	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	370 U	370 U	380 U	370 U	370 U	370 U
bis(2-Chloroethyl)Ether	370 U	370 U	380 U	370 U	370 U	370 U
2-Chlorophenol	370 U	370 U	380 U	370 U	370 U	370 U
1,3-Dichlorobenzene	370 U	370 U	380 U	370 U	370 U	370 U
1,4-Dichlorobenzene	370 U	370 U	380 U	370 U	370 U	370 U
1,2-Dichlorobenzene	370 U	370 U	380 U	370 U	370 U	370 U
2-Methylphenol	370 U	370 U	380 U	370 U	370 U	370 U
2,2'-oxybis(1-Chloropropane	370 U	370 U	380 U	370 U	370 U	370 U
4-Methylphenol	370 U	370 U	380 U	370 U	370 U	370 U
N-Nitroso-Di-n-Propylamine	370 U	370 U	380 U	370 U	370 U	370 U
Hexachloroethane	370 U	370 U	380 U	370 U	370 U	370 U
Nitrobenzene	370 U	370 U	380 U	370 U	370 U	370 U
Isophorone	370 U	370 U	380 U	370 U	370 U	370 U
2-Nitrophenol	370 U	370 U	380 U	370 U	370 U	370 U
2,4-Dimethylphenol	370 U	370 U	380 U	370 U	370 U	370 U
bis(2-Chloroethoxy)Methane	370 U	370 U	380 U	370 U	370 U	370 U
2,4-Dichlorophenol	370 U	370 U	380 U	370 U	370 U	370 U
1,2,4-Trichlorobenzene	370 U	370 U	380 U	370 U	370 U	370 U
Naphthalene	370 U	370 U	380 U	370 U	370 U	370 U
4-Chloroaniline	370 U	370 U	380 U	370 U	370 U	370 U
Hexachlorobutadiene	370 U	370 U	380 U	370 U	370 U	370 U
4-Chloro-3-Methylphenol	370 U	370 U	380 U	370 U	370 U	370 U
2-Methylnaphthalene	370 U	370 U	47 J	370 U	370 U	370 U
Hexachlorocyclopentadiene	370 U	370 U	380 U	370 U	370 U	370 U
2,4,6-Trichlorophenol	370 U	370 U	380 U	370 U	370 U	370 U
2,4,5-Trichlorophenol	890 U	900 U	920 U	890 U	910 U	900 U
2-Chloronaphthalene	370 U	370 U	380 U	370 U	370 U	370 U
2-Nitroaniline	890 U	900 U	920 U	890 U	910 U	900 U
Dimethyl Phthalate	370 U	370 U	380 U	370 U	370 U	370 U
Acenaphthylene	370 U	370 U	380 U	370 U	370 U	370 U

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FD1372 Semivolatiles

CLIENT SAMPLE ID>	WVB57	WV358	WV3SB0101	WV3SB0102	WV3SB0103	WV3SB0201
LAB SAMPLE ID>	121912	122052	121858	121859	121908	121909
LAB FILE ID>	F1599	F1575	F1616	F1594	F1595	F1596
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/15/95	04/13/95	04/13/95	04/14/95	04/14/95
DATE EXTD>	04/21/95	04/26/95	04/21/95	04/21/95	04/21/95	04/21/95
DATE ANAL>	05/03/95	05/02/95	05/04/95	05/03/95	05/03/95	05/03/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	10	11	12	10	12	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,6-Dinitrotoluene	370 U	370 U	380 U	370 U	370 U	370 U
3-Nitroaniline	890 U	900 U	920 U	890 U	910 U	900 U
Acenaphthene	370 U	370 U	42 J	370 U	370 U	370 U
2,4-Dinitrophenol	890 UJ	900 U	920 U	890 UJ	910 UJ	900 UJ
4-Nitrophenol	890 U	900 U	920 U	890 U	910 U	900 U
Dibenzofuran	370 U	370 U	36 J	370 U	370 U	370 U
2,4-Dinitrotoluene	370 U	370 U	380 U	370 U	370 U	370 U
Diethylphthalate	370 U	370 U	380 U	370 U	370 U	370 U
4-Chlorophenyl-phenylether	370 U	370 U	380 U	370 U	370 U	370 U
Fluorene	370 U	370 U	37 J	370 U	370 U	370 U
4-Nitroaniline	890 U	900 U	920 U	890 U	910 U	900 U
4,6-Dinitro-2-Methylphenol	890 U	900 U	920 U	890 U	910 U	900 U
N-Nitrosodiphenylamine (1)	370 U	370 U	380 U	370 U	370 U	370 U
4-Bromophenyl-phenylether	370 U	370 U	380 U	370 U	370 U	370 U
Hexachlorobenzene	370 U	370 U	380 U	370 U	370 U	370 U
Pentachlorophenol	890 U	900 U	920 U	890 U	910 U	900 U
Phenanthrene	370 U	200 J	560	100 J	370 U	280 J
Anthracene	370 U	370 U	130 J	370 U	370 U	54 J
Carbazole	370 U	370 U	53 J	370 U	370 U	38 J
Di-n-Butylphthalate	370 U	370 U	380 U	370 U	370 U	370 U
Fluoranthene	370 U	720	2500	500	370 U	1200
Pyrene	370 U	550	2500	560	370 U	990
Butylbenzylphthalate	370 U	370 U	380 U	370 U	370 U	370 U
3,3'-Dichlorobenzidine	370 U	370 U	380 U	370 U	370 U	370 U
Benzo(a)Anthracene	370 U	290 J	1400	270 J	370 U	610
Chrysene	370 U	320 J	1600	330 J	370 U	710
bis(2-Ethylhexyl)Phthalate	370 U	2600	380 U	370 U	200 J	370 U
Di-n-Octyl Phthalate	370 U	370 U	380 U	370 U	370 U	370 U
Benzo(b)Fluoranthene	370 U	370 J	1700	350 J	370 U	830
Benzo(k)Fluoranthene	370 U	240 J	1100	240 J	370 U	580
Benzo(a)Pyrene	370 U	340 J	1600	390	370 U	840
Indeno(1,2,3-cd)Pyrene	370 U	230 J	640	200 J	370 U	430
Dibenz(a,h)Anthracene	370 U	82 J	230 J	75 J	370 U	160 J
Benzo(g,h,i)Perylene	370 U	250 J	740	270 J	370 U	530

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FD1372 Semivolatiles

CLIENT SAMPLE ID>	WV3SB0202	WV3SB0203	WV3SB0301	WV3SB0302	WV459	WV4SB0102
LAB SAMPLE ID>	121910	121911	122051	122053	122058	122059
LAB FILE ID>	F1597	F1598	F1574	F1576	F1581	F1582
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/14/95	04/15/95	04/15/95	04/15/95	04/15/95
DATE EXTD>	04/21/95	04/21/95	04/26/95	04/26/95	04/26/95	04/26/95
DATE ANAL>	05/03/95	05/03/95	05/02/95	05/02/95	05/02/95	05/02/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	6	11	11	11	12	8
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	350 U	370 U	370 U	370 U	380 U	360 U
bis(2-Chloroethyl)Ether	350 U	370 U	370 U	370 U	380 U	360 U
2-Chlorophenol	350 U	370 U	370 U	370 U	380 U	360 U
1,3-Dichlorobenzene	350 U	370 U	370 U	370 U	380 U	360 U
1,4-Dichlorobenzene	350 U	370 U	370 U	370 U	380 U	360 U
1,2-Dichlorobenzene	350 U	370 U	370 U	370 U	380 U	360 U
2-Methylphenol	350 U	370 U	370 U	370 U	380 U	360 U
2,2'-oxybis(1-Chloropropane	350 U	370 U	370 U	370 U	380 U	360 U
4-Methylphenol	350 U	370 U	370 U	370 U	380 U	360 U
N-Nitroso-Di-n-Propylamine	350 U	370 U	370 U	370 U	380 U	360 U
Hexachloroethane	350 U	370 U	370 U	370 U	380 U	360 U
Nitrobenzene	350 U	370 U	370 U	370 U	380 U	360 U
Isophorone	350 U	370 U	370 U	370 U	380 U	360 U
2-Nitrophenol	350 U	370 U	370 U	370 U	380 U	360 U
2,4-Dimethylphenol	350 U	370 U	370 U	370 U	380 U	360 U
bis(2-Chloroethoxy)Methane	350 U	370 U	370 U	370 U	380 U	360 U
2,4-Dichlorophenol	350 U	370 U	370 U	370 U	380 U	360 U
1,2,4-Trichlorobenzene	350 U	370 U	370 U	370 U	380 U	360 U
Naphthalene	350 U	370 U	370 U	370 U	380 U	360 U
4-Chloroaniline	350 U	370 U	370 U	370 U	380 U	360 U
Hexachlorobutadiene	350 U	370 U	370 U	370 U	380 U	360 U
4-Chloro-3-Methylphenol	350 U	370 U	370 U	370 U	380 U	360 U
2-Methylnaphthalene	79 J	370 U	370 U	370 U	380 U	360 U
Hexachlorocyclopentadiene	350 U	370 U	370 U	370 U	380 U	360 U
2,4,6-Trichlorophenol	350 U	370 U	370 U	370 U	380 U	360 U
2,4,5-Trichlorophenol	850 U	900 U	900 U	900 U	920 U	870 U
2-Chloronaphthalene	350 U	370 U	370 U	370 U	380 U	360 U
2-Nitroaniline	850 U	900 U	900 U	900 U	920 U	870 U
Dimethyl Phthalate	350 U	370 U	370 U	370 U	380 U	360 U
Acenaphthylene	350 U	370 U	370 U	370 U	380 U	360 U
2,6-Dinitrotoluene	350 U	370 U	370 U	370 U	380 U	360 U
3-Nitroaniline	850 U	900 U	900 U	900 U	920 U	870 U
Acenaphthene	83 J	370 U	370 U	370 U	380 U	360 U

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FD1372 Semivolatiles

CLIENT SAMPLE ID>	WV3SB0202	WV3SB0203	WV3SB0301	WV3SB0302	WV459	WV4SB0102
LAB SAMPLE ID>	121910	121911	122051	122053	122058	122059
LAB FILE ID>	F1597	F1598	F1574	F1576	F1581	F1582
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/14/95	04/15/95	04/15/95	04/15/95	04/15/95
DATE EXTD>	04/21/95	04/21/95	04/26/95	04/26/95	04/26/95	04/26/95
DATE ANAL>	05/03/95	05/03/95	05/02/95	05/02/95	05/02/95	05/02/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	6	11	11	11	12	8
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	850 UJ	900 UJ	900 U	900 U	920 U	870 U
4-Nitrophenol	850 U	900 U	900 U	900 U	920 U	870 U
Dibenzofuran	51 J	370 U	370 U	370 U	380 U	360 U
2,4-Dinitrotoluene	350 U	370 U	370 U	370 U	380 U	360 U
Diethylphthalate	350 U	370 U	370 U	370 U	380 U	360 U
4-Chlorophenyl-phenylether	350 U	370 U	370 U	370 U	380 U	360 U
Fluorene	77 J	370 U	370 U	370 U	380 U	360 U
4-Nitroaniline	850 U	900 U	900 U	900 U	920 U	870 U
4,6-Dinitro-2-Methylphenol	850 U	900 U	900 U	900 U	920 U	870 U
N-Nitrosodiphenylamine (1)	350 U	370 U	370 U	370 U	380 U	360 U
4-Bromophenyl-phenylether	350 U	370 U	370 U	370 U	380 U	360 U
Hexachlorobenzene	350 U	370 U	370 U	370 U	380 U	360 U
Pentachlorophenol	850 U	900 U	900 U	900 U	920 U	870 U
Phenanthrene	730	370 U	160 J	370 U	380 U	360 U
Anthracene	130 J	370 U	370 U	370 U	380 U	360 U
Carbazole	90 J	370 U	370 U	370 U	380 U	360 U
Di-n-Butylphthalate	350 U	370 U	370 U	370 U	380 U	360 U
Fluoranthene	2300	370 U	560	370 U	380 U	360 U
Pyrene	2000	370 U	480	370 U	380 U	360 U
Butylbenzylphthalate	350 U	370 U	370 U	370 U	380 U	360 U
3,3'-Dichlorobenzidine	350 U	370 U	370 U	370 U	380 U	360 U
Benzo(a)Anthracene	970	370 U	260 J	370 U	380 U	360 U
Chrysene	1000	370 U	310 J	370 U	380 U	360 U
bis(2-Ethylhexyl)Phthalate	130 J	370 U	370 U	370 U	380 U	360 U
Di-n-Octyl Phthalate	350 U	370 U	370 U	370 U	380 U	360 U
Benzo(b)Fluoranthene	1100	370 U	360 J	370 U	380 U	360 U
Benzo(k)Fluoranthene	640	370 U	250 J	370 U	380 U	360 U
Benzo(a)Pyrene	970	370 U	360 J	370 U	380 U	360 U
Indeno(1,2,3-cd)Pyrene	350 J	370 U	230 J	370 U	380 U	360 U
Dibenz(a,h)Anthracene	130 J	370 U	90 J	370 U	380 U	360 U
Benzo(g,h,i)Perylene	330 J	370 U	290 J	370 U	380 U	360 U

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FD1372 Semivolatiles

CLIENT SAMPLE ID>	WV4SB0202	WV4SB0203	WV4SB0302	WV4SB0303	WVBSB0101	WVBSB0201
LAB SAMPLE ID>	122055	122056	122054	122057	121857	121914
LAB FILE ID>	F1578	F1579	F1577	F1580	J4138	F1601
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/15/95	04/15/95	04/13/95	04/14/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/21/95	04/21/95
DATE ANAL>	05/02/95	05/02/95	05/02/95	05/02/95	05/02/95	05/03/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	7	10	10	10	7	18
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	360 U	370 U	370 U	370 U	350 U	410 U
bis(2-Chloroethyl)Ether	360 U	370 U	370 U	370 U	350 U	410 U
2-Chlorophenol	360 U	370 U	370 U	370 U	350 U	410 U
1,3-Dichlorobenzene	360 U	370 U	370 U	370 U	350 U	410 U
1,4-Dichlorobenzene	360 U	370 U	370 U	370 U	350 U	410 U
1,2-Dichlorobenzene	360 U	370 U	370 U	370 U	350 U	410 U
2-Methylphenol	360 U	370 U	370 U	370 U	350 U	410 U
2,2'-oxybis(1-Chloropropane	360 U	370 U	370 U	370 U	350 R	410 U
4-Methylphenol	360 U	370 U	370 U	370 U	350 U	410 U
N-Nitroso-Di-n-Propylamine	360 U	370 U	370 U	370 U	350 U	410 U
Hexachloroethane	360 U	370 U	370 U	370 U	350 U	410 U
Nitrobenzene	360 U	370 U	370 U	370 U	350 U	410 U
Isophorone	360 U	370 U	370 U	370 U	350 U	410 U
2-Nitrophenol	360 U	370 U	370 U	370 U	350 U	410 U
2,4-Dimethylphenol	360 U	370 U	370 U	370 U	350 U	410 U
bis(2-Chloroethoxy)Methane	360 U	370 U	370 U	370 U	350 U	410 U
2,4-Dichlorophenol	360 U	370 U	370 U	370 U	350 U	410 U
1,2,4-Trichlorobenzene	360 U	370 U	370 U	370 U	350 U	410 U
Naphthalene	360 U	370 U	370 U	370 U	350 U	410 U
4-Chloroaniline	360 U	370 U	370 U	370 U	350 U	410 U
Hexachlorobutadiene	360 U	370 U	370 U	370 U	350 U	410 U
4-Chloro-3-Methylphenol	360 U	370 U	370 U	370 U	350 U	410 U
2-Methylnaphthalene	360 U	370 U	370 U	370 U	350 U	410 U
Hexachlorocyclopentadiene	360 U	370 U	370 U	370 U	350 U	410 U
2,4,6-Trichlorophenol	360 U	370 U	370 U	370 U	350 U	410 U
2,4,5-Trichlorophenol	870 U	890 U	890 U	890 U	860 U	990 U
2-Chloronaphthalene	360 U	370 U	370 U	370 U	350 U	410 U
2-Nitroaniline	870 U	890 U	890 U	890 U	860 U	990 U
Dimethyl Phthalate	360 U	370 U	370 U	370 U	350 U	410 U
Acenaphthylene	360 U	370 U	370 U	370 U	350 U	410 U
2,6-Dinitrotoluene	360 U	370 U	370 U	370 U	350 U	410 U
3-Nitroaniline	870 U	890 U	890 U	890 U	860 U	990 U
Acenaphthene	360 U	370 U	370 U	370 U	350 U	410 U

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FD1372 Semivolatiles

CLIENT SAMPLE ID>	WV4SB0202	WV4SB0203	WV4SB0302	WV4SB0303	WVBSB0101	WVBSB0201
LAB SAMPLE ID>	122055	122056	122054	122057	121857	121914
LAB FILE ID>	F1578	F1579	F1577	F1580	J4138	F1601
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/15/95	04/15/95	04/13/95	04/14/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/21/95	04/21/95
DATE ANAL>	05/02/95	05/02/95	05/02/95	05/02/95	05/02/95	05/03/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	7	10	10	10	7	18
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	870 U	890 U	890 U	890 U	860 U	990 UJ
4-Nitrophenol	870 U	890 U	890 U	890 U	860 U	990 U
Dibenzofuran	360 U	370 U	370 U	370 U	350 U	410 U
2,4-Dinitrotoluene	360 U	370 U	370 U	370 U	350 U	410 U
Diethylphthalate	360 U	370 U	370 U	370 U	350 U	410 U
4-Chlorophenyl-phenylether	360 U	370 U	370 U	370 U	350 U	410 U
Fluorene	360 U	370 U	370 U	370 U	350 U	410 U
4-Nitroaniline	870 U	890 U	890 U	890 U	860 U	990 U
4,6-Dinitro-2-Methylphenol	870 U	890 U	890 U	890 U	860 U	990 U
N-Nitrosodiphenylamine (1)	360 U	370 U	370 U	370 U	350 U	410 U
4-Bromophenyl-phenylether	360 U	370 U	370 U	370 U	350 U	410 U
Hexachlorobenzene	360 U	370 U	370 U	370 U	350 U	410 U
Pentachlorophenol	870 U	890 U	890 U	890 U	860 U	990 U
Phenanthrene	360 U	370 U	370 U	370 U	350 U	410 U
Anthracene	360 U	370 U	370 U	370 U	350 U	410 U
Carbazole	360 U	370 U	370 U	370 U	350 U	410 U
Di-n-Butylphthalate	360 U	370 U	370 U	370 U	350 U	410 U
Fluoranthene	360 U	370 U	370 U	370 U	89 J	410 U
Pyrene	360 U	370 U	370 U	370 U	75 J	410 U
Butylbenzylphthalate	360 U	370 U	370 U	370 U	350 U	410 U
3,3'-Dichlorobenzidine	360 U	370 U	370 U	370 U	350 U	410 U
Benzo(a)Anthracene	360 U	370 U	370 U	370 U	37 J	410 U
Chrysene	360 U	370 U	370 U	370 U	57 J	410 U
bis(2-Ethylhexyl)Phthalate	360 U	370 U	370 U	370 U	350 U	410 U
Di-n-Octyl Phthalate	360 U	370 U	370 U	370 U	350 U	410 U
Benzo(b)Fluoranthene	360 U	370 U	370 U	370 U	52 J	410 U
Benzo(k)Fluoranthene	360 U	370 U	370 U	370 U	48 J	410 U
Benzo(a)Pyrene	360 U	370 U	370 U	370 U	37 J	410 U
Indeno(1,2,3-cd)Pyrene	360 U	370 U	370 U	370 U	350 U	410 U
Dibenz(a,h)Anthracene	360 U	370 U	370 U	370 U	350 U	410 U
Benzo(g,h,i)Perylene	360 U	370 U	370 U	370 U	350 U	410 U

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D - Dilution of sample required for analysis

CLIENT SAMPLE ID>	**WVBSB0301**
LAB SAMPLE ID>	121913
LAB FILE ID>	F1600
MATRIX>	SOIL
DATE RECD>	04/14/95
DATE EXTD>	04/21/95
DATE ANAL>	05/03/95
DILUTION>	1.0
%MOIST>	18
CONC UNITS>	UG/KG

Phenol	410 U
bis(2-Chloroethyl)Ether	410 U
2-Chlorophenol	410 U
1,3-Dichlorobenzene	410 U
1,4-Dichlorobenzene	410 U
1,2-Dichlorobenzene	410 U
2-Methylphenol	410 U
2,2'-oxybis(1-Chloropropane	410 U
4-Methylphenol	410 U
N-Nitroso-Di-n-Propylamine	410 U
Hexachloroethane	410 U
Nitrobenzene	410 U
Isophorone	410 U
2-Nitrophenol	410 U
2,4-Dimethylphenol	410 U
bis(2-Chloroethoxy)Methane	410 U
2,4-Dichlorophenol	410 U
1,2,4-Trichlorobenzene	410 U
Naphthalene	410 U
4-Chloroaniline	410 U
Hexachlorobutadiene	410 U
4-Chloro-3-Methylphenol	410 U
2-Methylnaphthalene	410 U
Hexachlorocyclopentadiene	410 U
2,4,6-Trichlorophenol	410 U
2,4,5-Trichlorophenol	990 U
2-Chloronaphthalene	410 U
2-Nitroaniline	990 U
Dimethyl Phthalate	410 U
Acenaphthylene	410 U
2,6-Dinitrotoluene	410 U
3-Nitroaniline	990 U
Acenaphthene	410 U

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 Semivolatiles

CLIENT SAMPLE ID>	**WVBSB0301**
LAB SAMPLE ID>	121913
LAB FILE ID>	F1600
MATRIX>	SOIL
DATE RECD>	04/14/95
DATE EXTD>	04/21/95
DATE ANAL>	05/03/95
DILUTION>	1.0
%MOIST>	18
CONC UNITS>	UG/KG

2,4-Dinitrophenol	990 U
4-Nitrophenol	990 U
Dibenzofuran	410 U
2,4-Dinitrotoluene	410 U
Diethylphthalate	410 U
4-Chlorophenyl-phenylether	410 U
Fluorene	410 U
4-Nitroaniline	990 U
4,6-Dinitro-2-Methylphenol	990 U
N-Nitrosodiphenylamine (1)	410 U
4-Bromophenyl-phenylether	410 U
Hexachlorobenzene	410 U
Pentachlorophenol	990 U
Phenanthrene	410 U
Anthracene	410 U
Carbazole	410 U
Di-n-Butylphthalate	410 U
Fluoranthene	410 U
Pyrene	410 U
Butylbenzylphthalate	410 U
3,3'-Dichlorobenzidine	410 U
Benzo(a)Anthracene	410 U
Chrysene	410 U
bis(2-Ethylhexyl)Phthalate	410 U
Di-n-Octyl Phthalate	410 U
Benzo(b)Fluoranthene	410 U
Benzo(k)Fluoranthene	410 U
Benzo(a)Pyrene	410 U
Indeno(1,2,3-cd)Pyrene	410 U
Dibenz(a,h)Anthracene	410 U
Benzo(g,h,i)Perylene	410 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 PCB's

CLIENT SAMPLE ID>	WVB57	WV358	WV3SB0101	WV3SB0102	WV3SB0103	WV3SB0201
LAB SAMPLE ID>	121912	122052	121858	121859	121908	121909
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/15/95	04/13/95	04/13/95	04/14/95	04/14/95
DATE EXTD>	04/25/95	04/25/95	04/25/95	04/25/95	04/25/95	04/25/95
DATE ANAL>	04/30/95	04/30/95	04/29/95	04/29/95	04/29/95	04/30/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	10	11	12	10	12	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	37 U	37 U	37 UJ	37 U	37 U	37 U
AR-1221	74 U	75 U	76 UJ	74 U	76 U	75 U
AR-1232	37 U	37 U	37 UJ	37 U	37 U	37 U
AR-1242	37 U	37 U	37 UJ	37 U	37 U	37 U
AR-1248	37 U	37 U	37 UJ	37 U	37 U	37 U
AR-1254	37 U	37 U	37 UJ	37 U	37 U	37 U
AR-1260	37 U	37 U	37 UJ	37 U	37 U	37 U

CLIENT SAMPLE ID>	WVBSB0201	WV3SB0202	WV3SB0203	WVBSB0301	WV3SB0301	WV3SB0302
LAB SAMPLE ID>	121914	121910	121911	121913	122051	122053
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/14/95	04/14/95	04/14/95	04/15/95	04/15/95
DATE EXTD>	04/25/95	04/25/95	04/25/95	04/25/95	04/25/95	04/25/95
DATE ANAL>	04/30/95	04/30/95	04/30/95	04/30/95	04/30/95	04/30/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	18	6	11	18	12	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	40 U	35 U	37 U	40 U	37 U	37 U
AR-1221	82 U	71 U	75 U	82 U	76 U	75 U
AR-1232	40 U	35 U	37 U	40 U	37 U	37 U
AR-1242	40 U	35 U	37 U	40 U	37 U	37 U
AR-1248	40 U	35 U	37 U	40 U	37 U	37 U
AR-1254	40 U	35 U	37 U	40 U	37 U	37 U
AR-1260	40 U	35 U	37 U	40 U	37 U	37 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 PCB's

CLIENT SAMPLE ID>	**WVBSB0101**
LAB SAMPLE ID>	121857
MATRIX>	SOIL
DATE RECD>	04/13/95
DATE EXTD>	04/25/95
DATE ANAL>	04/29/95
DILUTION>	1.00
%MOIST>	7
CONC UNITS>	UG/KG

AR-1016	35 U
AR-1221	72 U
AR-1232	35 U
AR-1242	35 U
AR-1248	35 U
AR-1254	35 U
AR-1260	35 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1372 Metals

CLIENT SAMPLE ID>	WV3SB0301	WVBSB0101	WVBSB0201	WV3SB0101	WV3SB0102	WV3SB0103
LAB SAMPLE ID>	6-122051S	4-121857S	6-121914S	4-121858S	4-121859S	6-121908S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/13/95	04/14/95	04/13/95	04/13/95	04/14/95
PRCNT SOLIDS>	88.5	91.2	90.6	89.3	90.0	87.7
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R	R	R
AS	5.2	5.5	0.92	3	7.1	3.3
BE	1.5 J	1.4 J	1.2 J	3.2 J	1.6 J	0.94 J
CD	0.68 UJ	0.66 UJ	0.66 UJ	0.67 UJ	0.67 UJ	0.68 UJ
CR	21.2	25.9	20.2	8.8	22.4	10.9
CU	28.4	22.6	30.7	9.4	15.9	16.4
PB	17.4 J	12.1 J	9.7 J	15.4 J	15.1 J	15.5 J
HG	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
NI	29.4	30.2	23.5	10.2	31.6	21.5
SE	0.47 J	0.66 J	R	1 J	R	R
AG	R	R	R	R	R	R
TL	0.45 UJ	0.44 UJ	0.44 UJ	0.45 UJ	0.44 UJ	0.46 UJ
ZN	50.9	42.4	38	19.1	46.3	38

CLIENT SAMPLE ID>	WV3SB0201	WV3SB0202	WV3SB0203	WVBSB0301	WV3SB0302	WVB57
LAB SAMPLE ID>	6-121909S	6-121910S	6-121911S	6-121913S	6-122053S	6-121912S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/14/95	04/14/95	04/14/95	04/14/95	04/15/95	04/14/95
PRCNT SOLIDS>	92.2	94.2	89.7	90.7	90.2	91.1
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R	R	R
AS	6.5	2.7	2.3 J	1.7 J	7	0.69 J
BE	2.5 J	1.5 J	0.98 J	0.92 J	1.1 J	0.95 J
CD	0.65 UJ	0.64 UJ	0.67 UJ	0.66 UJ	0.71 J	0.66 UJ
CR	12.9	14.3	16.3	5.1	22.6	10.4
CU	12.7	11.4	1.3	32.5	25.1	39.1
PB	12.2 J	13 J	11.9 J	9.4 J	14.3 J	7.8 J
HG	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
NI	14.3	17.6	19.8	16.7	31.5	17.2
SE	1.2 J	R	R	R	R	R
AG	R	R	R	R	R	R
TL	0.43 UJ	0.42 UJ	0.45 UJ	0.44 UJ	0.44 U	0.44 UJ
ZN	25.1	30.8	59.2	15.3	52.5	13.6

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1372 Metals

CLIENT SAMPLE ID>	WV358
LAB SAMPLE ID>	6-122052S
MATRIX>	SOIL
DATE RECD>	04/15/95
PRCNT SOLIDS>	87.8
CONC UNITS>	MG/KG

SB		R
AS	3.5	
BE	1.3	J
CD	0.68	UJ
CR	14.2	
CU	22.9	
PB	14.3	J
HG	0.12	
NI	24.8	
SE		R
AG		R
TL	0.46	UJ
ZN	40.7	
CN		

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

77

FD1377 Volatile Organics

CLIENT SAMPLE ID>	WV162	WV1HA1101	WV1HA1102	WV1HA1201	WV260	WV2SB0101
LAB SAMPLE ID>	122115	122111	122112	122113	122107	122108
LAB FILE ID>	H3233	H3218	H3260	H3232	H3210	H3230
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95
DATE EXTD>	NA	NA	NA	NA	NA	NA
DATE ANAL>	04/25/95	04/24/95	04/27/95	04/25/95	04/24/95	04/25/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	23	18	15	11	12
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	13 U	12 U	12 U	11 U	11 U
Bromomethane	12 U	13 U	12 U	12 U	11 U	11 U
Vinyl Chloride	12 U	13 U	12 U	12 U	11 U	11 U
Chloroethane	12 U	13 U	12 U	12 U	11 U	11 U
Methylene Chloride	12 U	13 U	12 U	12 U	11 U	11 U
Acetone	12 U	13 U	12 U	12 U	11 U	11 U
Carbon Disulfide	12 U	13 U	12 U	12 U	11 U	11 U
1,1-Dichloroethene	12 U	13 U	12 U	12 U	11 U	11 U
1,1-Dichloroethane	12 U	13 U	12 U	12 U	11 U	11 U
1,2-Dichloroethene (total)	12 U	13 U	12 U	12 U	11 U	11 U
Chloroform	12 U	13 U	12 U	12 U	11 U	11 U
1,2-Dichloroethane	12 U	13 U	12 U	12 U	11 U	11 U
2-Butanone	12 U	13 U	12 U	12 U	11 U	11 U
1,1,1-Trichloroethane	12 U	13 U	12 U	12 U	11 U	11 U
Carbon Tetrachloride	12 U	13 U	12 U	12 U	11 U	11 U
Bromodichloromethane	12 U	13 U	12 U	12 U	11 U	11 U
1,2-Dichloropropane	12 U	13 U	12 U	12 U	11 U	11 U
cis-1,3-Dichloropropene	12 U	13 U	12 U	12 U	11 U	11 U
Trichloroethene	12 U	13 U	12 U	12 U	11 U	11 U
Dibromochloromethane	12 U	13 U	12 U	12 U	11 U	11 U
1,1,2-Trichloroethane	12 U	13 U	12 U	12 U	11 U	11 U
Benzene	12 U	13 U	12 U	12 U	11 U	11 U
trans-1,3-Dichloropropene	12 U	13 U	12 U	12 U	11 U	11 U
Bromoform	12 U	13 U	12 U	12 U	11 U	11 U
4-Methyl-2-Pentanone	12 U	13 U	12 U	12 U	11 U	11 U
2-Hexanone	12 U	13 U	12 U	12 U	11 U	11 U
Tetrachloroethene	12 U	13 U	12 U	12 U	11 U	11 U
1,1,2,2-Tetrachloroethane	12 U	13 U	12 U	12 U	11 U	11 U
Toluene	12 U	13 U	12 U	12 U	11 U	11 U
Chlorobenzene	12 U	13 U	12 U	12 U	11 U	11 U
Ethylbenzene	12 U	13 U	12 U	12 U	11 U	11 U
Styrene	12 U	13 U	12 U	12 U	11 U	11 U
Xylene (total)	12 U	13 U	12 U	12 U	11 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Volatile Organics

CLIENT SAMPLE ID>	WV2SB0102	WV2SB0103	WV2SB0201	WV2SB0202	WV2SB0203	WV2SB0301
LAB SAMPLE ID>	122109	122110	122203	122204	122205	122104
LAB FILE ID>	H3216	H3217	H3234	H3235	H3236	H3193
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/19/95	04/19/95	04/19/95	04/18/95
DATE EXTD>	NA	NA	NA	NA	NA	NA
DATE ANAL>	04/24/95	04/24/95	04/25/95	04/25/95	04/25/95	04/23/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	11	24	11	18	13	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	13 U	11 U	12 U	11 U	11 U
Bromomethane	11 U	13 U	11 U	12 U	11 U	11 U
Vinyl Chloride	11 U	13 U	11 U	12 U	11 U	11 U
Chloroethane	11 U	13 U	11 U	12 U	11 U	11 U
Methylene Chloride	11 U	13 U	11 U	12 U	11 U	11 U
Acetone	16 U	90	11 U	140	11 U	11 U
Carbon Disulfide	11 U	13 U	11 U	12 U	11 U	11 U
1,1-Dichloroethene	11 U	13 U	11 U	12 U	11 U	11 U
1,1-Dichloroethane	11 U	13 U	11 U	12 U	11 U	11 U
1,2-Dichloroethene (total)	11 U	13 U	11 U	12 U	11 U	11 U
Chloroform	11 U	13 U	11 U	12 U	11 U	11 U
1,2-Dichloroethane	11 U	13 U	11 U	12 U	11 U	11 U
2-Butanone	11 U	7 J	11 U	12 J	11 U	11 U
1,1,1-Trichloroethane	11 U	13 U	11 U	12 U	11 U	11 U
Carbon Tetrachloride	11 U	13 U	11 U	12 U	11 U	11 U
Bromodichloromethane	11 U	13 U	11 U	12 U	11 U	11 U
1,2-Dichloropropane	11 U	13 U	11 U	12 U	11 U	11 U
cis-1,3-Dichloropropene	11 U	13 U	11 U	12 U	11 U	11 U
Trichloroethene	11 U	13 U	11 U	12 U	11 U	11 U
Dibromochloromethane	11 U	13 U	11 U	12 U	11 U	11 U
1,1,2-Trichloroethane	11 U	13 U	11 U	12 U	11 U	11 U
Benzene	11 U	13 U	11 U	12 U	11 U	11 U
trans-1,3-Dichloropropene	11 U	13 U	11 U	12 U	11 U	11 U
Bromoform	11 U	13 U	11 U	12 U	11 U	11 U
4-Methyl-2-Pentanone	11 U	13 U	11 U	12 U	11 U	11 U
2-Hexanone	11 U	13 U	11 U	12 U	11 U	11 U
Tetrachloroethene	11 U	13 U	11 U	12 U	11 U	11 U
1,1,2,2-Tetrachloroethane	11 U	13 U	11 U	12 U	11 U	11 U
Toluene	11 U	13 U	11 U	12 U	11 U	11 U
Chlorobenzene	11 U	13 U	11 U	12 U	11 U	11 U
Ethylbenzene	11 U	13 U	11 U	12 U	11 U	11 U
Styrene	11 U	13 U	11 U	12 U	11 U	11 U
Xylene (total)	11 U	13 U	11 U	12 U	11 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Volatile Organics

CLIENT SAMPLE ID>	WV2SB0302	WV2SB0303	WV5SB0402	WV5SB0403	WV5SB0501	WV5SB0502
LAB SAMPLE ID>	122105	122106	122242	122243	122244	122245
LAB FILE ID>	H3209	H3197	H3237	H3238	H3239	H3248
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/20/95	04/20/95	04/20/95	04/20/95
DATE EXTD>	NA	NA	NA	NA	NA	NA
DATE ANAL>	04/24/95	04/23/95	04/25/95	04/25/95	04/25/95	04/26/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	15	9	14	2	8	8
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	11 U	12 U	10 U	11 U	11 U
Bromomethane	12 U	11 U	12 U	10 U	11 U	11 U
Vinyl Chloride	12 U	11 U	12 U	10 U	11 U	11 U
Chloroethane	12 U	11 U	12 U	10 U	11 U	11 U
Methylene Chloride	12 U	11 U	12 U	10 U	11 U	11 U
Acetone	12 U	97 J	12 U	10 U	11 U	11 U
Carbon Disulfide	12 U	11 U	12 U	10 U	11 U	11 U
1,1-Dichloroethene	12 U	11 U	12 U	10 U	11 U	11 U
1,1-Dichloroethane	12 U	11 U	12 U	10 U	11 U	11 U
1,2-Dichloroethene (total)	12 U	11 U	12 U	10 U	11 U	11 U
Chloroform	12 U	11 U	12 U	10 U	11 U	11 U
1,2-Dichloroethane	12 U	11 U	12 U	10 U	11 U	11 U
2-Butanone	12 U	11 U	12 U	10 U	11 U	11 U
1,1,1-Trichloroethane	12 U	11 U	12 U	10 U	11 U	11 U
Carbon Tetrachloride	12 U	11 U	12 U	10 U	11 U	11 U
Bromodichloromethane	12 U	11 U	12 U	10 U	11 U	11 U
1,2-Dichloropropane	12 U	11 U	12 U	10 U	11 U	11 U
cis-1,3-Dichloropropene	12 U	11 U	12 U	10 U	11 U	11 U
Trichloroethene	12 U	11 U	12 U	3 J	11 U	11 U
Dibromochloromethane	12 U	11 U	12 U	10 U	11 U	11 U
1,1,2-Trichloroethane	12 U	11 U	12 U	10 U	11 U	11 U
Benzene	12 U	11 U	12 U	10 U	11 U	11 U
trans-1,3-Dichloropropene	12 U	11 U	12 U	10 U	11 U	11 U
Bromoform	12 U	11 U	12 U	10 U	11 U	11 U
4-Methyl-2-Pentanone	12 U	11 U	12 U	10 U	11 U	11 U
2-Hexanone	12 U	11 U	12 U	10 U	11 U	11 U
Tetrachloroethene	12 U	11 U	12 U	10 U	11 U	11 U
1,1,2,2-Tetrachloroethane	12 U	11 U	12 U	10 U	11 U	11 U
Toluene	12 U	11 U	12 U	10 U	11 U	11 U
Chlorobenzene	12 U	11 U	12 U	10 U	11 U	11 U
Ethylbenzene	12 U	11 U	12 U	10 U	11 U	11 U
Styrene	12 U	11 U	12 U	10 U	11 U	11 U
Xylene (total)	12 U	11 U	12 U	10 U	11 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Volatile Organics

CLIENT SAMPLE ID>	WV5SB0503
LAB SAMPLE ID>	122246
LAB FILE ID>	H3249
MATRIX>	SOIL
DATE RECD>	04/20/95
DATE EXTD>	NA
DATE ANAL>	04/26/95
DILUTION>	1.0
%MOIST>	10
CONC UNITS>	UG/KG

Chloromethane	11 U
Bromomethane	11 U
Vinyl Chloride	11 U
Chloroethane	11 U
Methylene Chloride	11 U
Acetone	11 U
Carbon Disulfide	11 U
1,1-Dichloroethene	11 U
1,1-Dichloroethane	11 U
1,2-Dichloroethene (total)	11 U
Chloroform	11 U
1,2-Dichloroethane	11 U
2-Butanone	11 U
1,1,1-Trichloroethane	11 U
Carbon Tetrachloride	11 U
Bromodichloromethane	11 U
1,2-Dichloropropane	11 U
cis-1,3-Dichloropropene	11 U
Trichloroethene	11 U
Dibromochloromethane	11 U
1,1,2-Trichloroethane	11 U
Benzene	11 U
trans-1,3-Dichloropropene	11 U
Bromoform	11 U
4-Methyl-2-Pentanone	11 U
2-Hexanone	11 U
Tetrachloroethene	11 U
1,1,2,2-Tetrachloroethane	11 U
Toluene	11 U
Chlorobenzene	11 U
Ethylbenzene	11 U
Styrene	11 U
Xylene (total)	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Volatile Organics

CLIENT SAMPLE ID>	WV2TB14	WV2TB15	WV5TB16
LAB SAMPLE ID>	122114	122206	122247
LAB FILE ID>	G6674	G6737	G6750
MATRIX>	WATER	WATER	WATER
DATE RECD>	04/18/95	04/19/95	04/20/95
DATE EXTD>	NA	NA	NA
DATE ANAL>	04/24/95	04/28/95	04/29/95
DILUTION>	0.6	0.6	0.6
CONC UNITS>	UG/L	UG/L	UG/L
Chloromethane	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U
Methylene Chloride	3	3 B	3 B
Acetone	4 J	3 J	1 J
Carbon Disulfide	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U
2-Butanone	1 J	5 U	1 J
Bromochloromethane	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U
Benzene	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U
Tetrachloroethene	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U
Toluene	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U
Styrene	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV162	WV1HA1101	WV1HA1102	WV1HA1201	WV260	WV2SB0101
LAB SAMPLE ID>	122115	122111	122112	122113	122107	122108
LAB FILE ID>	F1675	F1628	F1629	F1642	F1673	F1647
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95
DATE EXTD>	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95
DATE ANAL>	05/08/95	05/04/95	05/04/95	05/05/95	05/08/95	05/05/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	15	27	14	13	15
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	380 U	390 U	450 U	380 U	380 U	390 U
bis(2-Chloroethyl)Ether	380 U	390 U	450 U	380 U	380 U	390 U
2-Chlorophenol	380 U	390 U	450 U	380 U	380 U	390 U
1,3-Dichlorobenzene	380 U	390 U	450 U	380 U	380 U	390 U
1,4-Dichlorobenzene	380 U	390 U	450 U	380 U	380 U	390 U
1,2-Dichlorobenzene	380 U	390 U	450 U	380 U	380 U	390 U
2-Methylphenol	380 U	390 U	450 U	380 U	380 U	390 U
2,2'-oxybis(1-Chloropropane	380 U	390 U	450 U	380 U	380 U	390 U
4-Methylphenol	380 U	390 U	450 U	380 U	380 U	390 U
N-Nitroso-Di-n-Propylamine	380 U	390 U	450 U	380 U	380 U	390 U
Hexachloroethane	380 U	390 U	450 U	380 U	380 U	390 U
Nitrobenzene	380 U	390 U	450 U	380 U	380 U	390 U
Isophorone	380 U	390 U	450 U	380 U	380 U	390 U
2-Nitrophenol	380 U	390 U	450 U	380 U	380 U	390 U
2,4-Dimethylphenol	380 U	390 U	450 U	380 U	380 U	390 U
bis(2-Chloroethoxy)Methane	380 U	390 U	450 U	380 U	380 U	390 U
2,4-Dichlorophenol	380 U	390 U	450 U	380 U	380 U	390 U
1,2,4-Trichlorobenzene	380 U	390 U	450 U	380 U	380 U	390 U
Naphthalene	380 U	390 U	450 U	380 U	380 U	390 U
4-Chloroaniline	380 U	390 U	450 U	380 U	380 U	390 U
Hexachlorobutadiene	380 U	390 U	450 U	380 U	380 U	390 U
4-Chloro-3-Methylphenol	380 U	390 U	450 U	380 U	380 U	390 U
2-Methylnaphthalene	380 U	390 U	450 U	380 U	380 U	390 U
Hexachlorocyclopentadiene	380 U	390 U	450 U	380 U	380 U	390 U
2,4,6-Trichlorophenol	380 U	390 U	450 U	380 U	380 U	390 U
2,4,5-Trichlorophenol	930 U	940 U	1100 U	930 U	920 U	940 U
2-Chloronaphthalene	380 U	390 U	450 U	380 U	380 U	390 U
2-Nitroaniline	930 U	940 U	1100 U	930 U	920 U	940 U
Dimethyl Phthalate	380 U	390 U	450 U	380 U	380 U	390 U
Acenaphthylene	380 U	390 U	450 U	380 U	57 J	92 J

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV162	WV1HA1101	WV1HA1102	WV1HA1201	WV260	WV2SB0101
LAB SAMPLE ID>	122115	122111	122112	122113	122107	122108
LAB FILE ID>	F1675	F1628	F1629	F1642	F1673	F1647
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95
DATE EXTD>	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95
DATE ANAL>	05/08/95	05/04/95	05/04/95	05/05/95	05/08/95	05/05/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	15	27	14	13	15
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,6-Dinitrotoluene	380 U	390 U	450 U	380 U	380 U	390 U
3-Nitroaniline	930 U	940 U	1100 U	930 U	920 U	940 U
Acenaphthene	380 U	390 U	450 U	380 U	380 U	390 U
2,4-Dinitrophenol	930 U	940 U	1100 U	930 U	920 U	940 U
4-Nitrophenol	930 U	940 U	1100 U	930 U	920 U	940 U
Dibenzofuran	380 U	390 U	450 U	380 U	380 U	390 U
2,4-Dinitrotoluene	380 U	390 U	450 U	380 U	380 U	390 U
Diethylphthalate	380 U	390 U	450 U	380 U	380 U	390 U
4-Chlorophenyl-phenylether	380 U	390 U	450 U	380 U	380 U	390 U
Fluorene	380 U	390 U	450 U	380 U	57 J	390 U
4-Nitroaniline	930 U	940 U	1100 U	930 U	920 U	940 U
4,6-Dinitro-2-Methylphenol	930 U	940 U	1100 U	930 U	920 U	940 U
N-Nitrosodiphenylamine (1)	380 U	390 U	450 U	380 U	380 U	390 U
4-Bromophenyl-phenylether	380 U	390 U	450 U	380 U	380 U	390 U
Hexachlorobenzene	380 U	390 U	450 U	380 U	380 U	390 U
Pentachlorophenol	930 U	940 U	1100 U	930 U	920 U	940 U
Phenanthrene	380 U	390 U	450 U	380 U	840	180 J
Anthracene	380 U	390 U	450 U	380 U	140 J	71 J
Carbazole	380 U	390 U	450 U	380 U	81 J	390 U
Di-n-Butylphthalate	380 U	390 U	450 U	380 U	380 U	390 U
Fluoranthene	41 J	390 U	450 U	48 J	1600	1800
Pyrene	380 U	390 U	450 U	380 U	1200	1600
Butylbenzylphthalate	380 U	390 U	450 U	380 U	380 U	390 U
3,3'-Dichlorobenzidine	380 U	390 U	450 U	380 U	380 U	390 U
Benzo(a)Anthracene	380 U	390 U	450 U	380 U	670	1100
Chrysene	380 U	390 U	450 U	380 U	690	1100
bis(2-Ethylhexyl)Phthalate	380 U	390 U	450 U	380 U	380 U	390 U
Di-n-Octyl Phthalate	380 U	390 U	450 U	380 U	380 U	390 U
Benzo(b)Fluoranthene	380 U	390 U	450 U	380 U	670	1400
Benzo(k)Fluoranthene	380 U	390 U	450 U	380 U	600	820
Benzo(a)Pyrene	380 U	390 U	450 U	380 U	650	1000
Indeno(1,2,3-cd)Pyrene	380 U	390 U	450 U	380 U	400	680
Dibenz(a,h)Anthracene	380 U	390 U	450 U	380 U	160 J	170 J
Benzo(g,h,i)Perylene	380 U	390 U	450 U	380 U	440	550

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FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV2SB0102	WV2SB0103	WV2SB0201	WV2SB0202	WV2SB0203	WV2SB0301
LAB SAMPLE ID>	122109	122110	122203	122204	122205	122104
LAB FILE ID>	F1648	F1674	F1676	F1677	F1727	F1643
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/19/95	04/19/95	04/19/95	04/18/95
DATE EXTD>	04/27/95	04/27/95	05/01/95	05/01/95	05/05/95	04/27/95
DATE ANAL>	05/05/95	05/08/95	05/08/95	05/08/95	05/10/95	05/05/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	20	12	19	13	12
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	370 U	410 U	370 U	410 U	380 U	370 U
bis(2-Chloroethyl)Ether	370 U	410 U	370 U	410 U	380 U	370 U
2-Chlorophenol	370 U	410 U	370 U	410 U	380 U	370 U
1,3-Dichlorobenzene	370 U	410 U	370 U	410 U	380 U	370 U
1,4-Dichlorobenzene	370 U	410 U	370 U	410 U	380 U	370 U
1,2-Dichlorobenzene	370 U	410 U	370 U	410 U	380 U	370 U
2-Methylphenol	370 U	410 U	370 U	410 U	380 U	370 U
2,2'-oxybis(1-Chloropropane	370 U	410 U	370 U	410 U	380 U	370 U
4-Methylphenol	370 U	410 U	370 U	410 U	380 U	370 U
N-Nitroso-Di-n-Propylamine	370 U	410 U	370 U	410 U	380 U	370 U
Hexachloroethane	370 U	410 U	370 U	410 U	380 U	370 U
Nitrobenzene	370 U	410 U	370 U	410 U	380 U	370 U
Isophorone	370 U	410 U	370 U	410 U	380 U	370 U
2-Nitrophenol	370 U	410 U	370 U	410 U	380 U	370 U
2,4-Dimethylphenol	370 U	410 U	370 U	410 U	380 U	370 U
bis(2-Chloroethoxy)Methane	370 U	410 U	370 U	410 U	380 U	370 U
2,4-Dichlorophenol	370 U	410 U	370 U	410 U	380 U	370 U
1,2,4-Trichlorobenzene	370 U	410 U	370 U	410 U	380 U	370 U
Naphthalene	370 U	410 U	370 U	410 U	380 U	370 U
4-Chloroaniline	370 U	410 U	370 U	410 U	380 U	370 U
Hexachlorobutadiene	370 U	410 U	370 U	410 U	380 U	370 U
4-Chloro-3-Methylphenol	370 U	410 U	370 U	410 U	380 U	370 U
2-Methylnaphthalene	370 U	410 U	370 U	410 U	380 U	370 U
Hexachlorocyclopentadiene	370 U	410 U	370 U	410 U	380 U	370 U
2,4,6-Trichlorophenol	370 U	410 U	370 U	410 U	380 U	370 U
2,4,5-Trichlorophenol	910 U	1000 U	910 U	990 U	920 U	910 U
2-Chloronaphthalene	370 U	410 U	370 U	410 U	380 U	370 U
2-Nitroaniline	910 U	1000 U	910 U	990 U	920 U	910 U
Dimethyl Phthalate	370 U	410 U	370 U	410 U	380 U	370 U
Acenaphthylene	47 J	410 U	370 U	410 U	380 U	370 U

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D - Dilution of sample required for analysis

FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV2SB0102	WV2SB0103	WV2SB0201	WV2SB0202	WV2SB0203	WV2SB0301
LAB SAMPLE ID>	122109	122110	122203	122204	122205	122104
LAB FILE ID>	F1648	F1674	F1676	F1677	F1727	F1643
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/19/95	04/19/95	04/19/95	04/18/95
DATE EXTD>	04/27/95	04/27/95	05/01/95	05/01/95	05/05/95	04/27/95
DATE ANAL>	05/05/95	05/08/95	05/08/95	05/08/95	05/10/95	05/05/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	20	12	19	13	12
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,6-Dinitrotoluene	370 U	410 U	370 U	410 U	380 U	370 U
3-Nitroaniline	910 U	1000 U	910 U	990 U	920 U	910 U
Acenaphthene	320 J	410 U	370 U	410 U	380 U	370 U
2,4-Dinitrophenol	910 U	1000 U	910 U	990 U	920 U	910 U
4-Nitrophenol	910 U	1000 U	910 U	990 U	920 U	910 U
Dibenzofuran	270 J	410 U	370 U	410 U	380 U	370 U
2,4-Dinitrotoluene	370 U	410 U	370 U	410 U	380 U	370 U
Diethylphthalate	370 U	410 U	370 U	410 U	380 U	370 U
4-Chlorophenyl-phenylether	370 U	410 U	370 U	410 U	380 U	370 U
Fluorene	210 J	410 U	370 U	410 U	380 U	370 U
4-Nitroaniline	910 U	1000 U	910 U	990 U	920 U	910 U
4,6-Dinitro-2-Methylphenol	910 U	1000 U	910 U	990 U	920 U	910 U
N-Nitrosodiphenylamine (1)	370 U	410 U	370 U	410 U	380 U	370 U
4-Bromophenyl-phenylether	370 U	410 U	370 U	410 U	380 U	370 U
Hexachlorobenzene	370 U	410 U	370 U	410 U	380 U	370 U
Pentachlorophenol	910 U	1000 U	910 U	990 U	920 U	910 U
Phenanthrene	920	410 U	340 J	70 J	380 U	220 J
Anthracene	190 J	410 U	65 J	410 U	380 U	45 J
Carbazole	50 J	410 U	48 J	410 U	380 U	42 J
Di-n-Butylphthalate	370 U	410 U	370 U	410 U	380 U	370 U
Fluoranthene	1000	410 U	1000	99 J	380 U	1100
Pyrene	940	410 U	990	66 J	380 U	1000
Butylbenzylphthalate	370 U	410 U	370 U	410 U	380 U	370 U
3,3'-Dichlorobenzidine	370 U	410 U	370 U	410 U	380 U	370 U
Benzo(a)Anthracene	350 J	410 U	470	44 J	380 U	520
Chrysene	450	410 U	510	41 J	380 U	650
bis(2-Ethylhexyl)Phthalate	370 U	410 U	51 J	410 U	380 U	370 U
Di-n-Octyl Phthalate	370 U	410 U	370 U	410 U	380 U	370 U
Benzo(b)Fluoranthene	480	410 U	540	410 U	380 U	640
Benzo(k)Fluoranthene	350 J	410 U	420	410 U	380 U	500
Benzo(a)Pyrene	400	410 U	480	410 U	380 U	590
Indeno(1,2,3-cd)Pyrene	190 J	410 U	320 J	410 U	380 U	480
Dibenz(a,h)Anthracene	54 J	410 U	100 J	410 U	380 U	120 J
Benzo(g,h,i)Perylene	130 J	410 U	350 J	410 U	380 U	410

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FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV2SB0302	WV2SB0303	WV5SB0402	WV5SB0403	WV5SB0501	WV5SB0502
LAB SAMPLE ID>	122105	122106	122242	122243	122244	122245
LAB FILE ID>	F1672	F1646	F1697	F1698	F1699	F1700
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/20/95	04/20/95	04/20/95	04/20/95
DATE EXTD>	04/27/95	04/27/95	05/01/95	05/01/95	05/01/95	05/01/95
DATE ANAL>	05/08/95	05/05/95	05/09/95	05/09/95	05/09/95	05/09/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	15	10	22	12	9	8
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	390 U	370 U	420 U	370 U	360 U	360 U
bis(2-Chloroethyl)Ether	390 U	370 U	420 U	370 U	360 U	360 U
2-Chlorophenol	390 U	370 U	420 U	370 U	360 U	360 U
1,3-Dichlorobenzene	390 U	370 U	420 U	370 U	360 U	360 U
1,4-Dichlorobenzene	390 U	370 U	420 U	370 U	360 U	360 U
1,2-Dichlorobenzene	390 U	370 U	420 U	370 U	360 U	360 U
2-Methylphenol	390 U	370 U	420 U	370 U	360 U	360 U
2,2'-oxybis(1-Chloropropane	390 U	370 U	420 U	370 U	360 U	360 U
4-Methylphenol	390 U	370 U	420 U	370 U	360 U	360 U
N-Nitroso-Di-n-Propylamine	390 U	370 U	420 U	370 U	360 U	360 U
Hexachloroethane	390 U	370 U	420 U	370 U	360 U	360 U
Nitrobenzene	390 U	370 U	420 U	370 U	360 U	360 U
Isophorone	390 U	370 U	420 U	370 U	360 U	360 U
2-Nitrophenol	390 U	370 U	420 U	370 U	360 U	360 U
2,4-Dimethylphenol	390 U	370 U	420 U	370 U	360 U	360 U
bis(2-Chloroethoxy)Methane	390 U	370 U	420 U	370 U	360 U	360 U
2,4-Dichlorophenol	390 U	370 U	420 U	370 U	360 U	360 U
1,2,4-Trichlorobenzene	390 U	370 U	420 U	370 U	360 U	360 U
Naphthalene	390 U	370 U	420 U	370 U	360 U	360 U
4-Chloroaniline	390 U	370 U	420 U	370 U	360 U	360 U
Hexachlorobutadiene	390 U	370 U	420 U	370 U	360 U	360 U
4-Chloro-3-Methylphenol	390 U	370 U	420 U	370 U	360 U	360 U
2-Methylnaphthalene	390 U	370 U	420 U	370 U	360 U	360 U
Hexachlorocyclopentadiene	390 U	370 U	420 U	370 U	360 U	360 U
2,4,6-Trichlorophenol	390 U	370 U	420 U	370 U	360 U	360 U
2,4,5-Trichlorophenol	940 U	890 U	1000 U	910 U	880 U	870 U
2-Chloronaphthalene	390 U	370 U	420 U	370 U	360 U	360 U
2-Nitroaniline	940 U	890 U	1000 U	910 U	880 U	870 U
Dimethyl Phthalate	390 U	370 U	420 U	370 U	360 U	360 U
Acenaphthylene	390 U	370 U	420 U	370 U	360 U	360 U

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B - Analyte was found in the associated method blank
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FD1377 Semivolatiles

CLIENT SAMPLE ID>	WV2SB0302	WV2SB0303	WV5SB0402	WV5SB0403	WV5SB0501	WV5SB0502
LAB SAMPLE ID>	122105	122106	122242	122243	122244	122245
LAB FILE ID>	F1672	F1646	F1697	F1698	F1699	F1700
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/20/95	04/20/95	04/20/95	04/20/95
DATE EXTD>	04/27/95	04/27/95	05/01/95	05/01/95	05/01/95	05/01/95
DATE ANAL>	05/08/95	05/05/95	05/09/95	05/09/95	05/09/95	05/09/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	15	10	22	12	9	8
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,6-Dinitrotoluene	390 U	370 U	420 U	370 U	360 U	360 U
3-Nitroaniline	940 U	890 U	1000 U	910 U	880 U	870 U
Acenaphthene	390 U	370 U	420 U	370 U	360 U	360 U
2,4-Dinitrophenol	940 U	890 U	1000 U	910 U	880 U	870 U
4-Nitrophenol	940 U	890 U	1000 U	910 U	880 U	870 U
Dibenzofuran	390 U	370 U	420 U	370 U	360 U	360 U
2,4-Dinitrotoluene	390 U	370 U	420 U	370 U	360 U	360 U
Diethylphthalate	390 U	370 U	420 U	370 U	360 U	360 U
4-Chlorophenyl-phenylether	390 U	370 U	420 U	370 U	360 U	360 U
Fluorene	390 U	370 U	420 U	370 U	360 U	360 U
4-Nitroaniline	940 U	890 U	1000 U	910 U	880 U	870 U
4,6-Dinitro-2-Methylphenol	940 U	890 U	1000 U	910 U	880 U	870 U
N-Nitrosodiphenylamine (1)	390 U	370 U	420 U	370 U	360 U	360 U
4-Bromophenyl-phenylether	390 U	370 U	420 U	370 U	360 U	360 U
Hexachlorobenzene	390 U	370 U	420 U	370 U	360 U	360 U
Pentachlorophenol	940 U	890 U	1000 U	910 U	880 U	870 U
Phenanthrene	390 U	370 U	420 U	42 J	360 U	360 U
Anthracene	390 U	370 U	420 U	370 U	360 U	360 U
Carbazole	390 U	370 U	420 U	370 U	360 U	360 U
Di-n-Butylphthalate	390 U	370 U	420 U	370 U	360 U	360 U
Fluoranthene	390 U	370 U	420 U	52 J	360 U	360 U
Pyrene	390 U	370 U	420 U	40 J	360 U	360 U
Butylbenzylphthalate	390 U	370 U	420 U	370 U	360 U	360 U
3,3'-Dichlorobenzidine	390 U	370 U	420 U	370 U	360 U	360 U
Benzo(a)Anthracene	390 U	370 U	420 U	370 U	360 U	360 U
Chrysene	390 U	370 U	420 U	370 U	360 U	360 U
bis(2-Ethylhexyl)Phthalate	390 U	370 U	47 J	370 U	360 U	360 U
Di-n-Octyl Phthalate	390 U	370 U	420 U	370 U	360 U	360 U
Benzo(b)Fluoranthene	390 U	370 U	420 U	370 U	360 U	360 U
Benzo(k)Fluoranthene	390 U	370 U	420 U	370 U	360 U	360 U
Benzo(a)Pyrene	390 U	370 U	420 U	370 U	360 U	360 U
Indeno(1,2,3-cd)Pyrene	390 U	370 U	420 U	370 U	360 U	360 U
Dibenz(a,h)Anthracene	390 U	370 U	420 U	370 U	360 U	360 U
Benzo(g,h,i)Perylene	390 U	370 U	420 U	370 U	360 U	360 U

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D - Dilution of sample required for analysis

FD1377 Semivolatiles

CLIENT SAMPLE ID>	**WV5SB0503**
LAB SAMPLE ID>	122246
LAB FILE ID>	F1701
MATRIX>	SOIL
DATE RECD>	04/20/95
DATE EXTD>	05/01/95
DATE ANAL>	05/09/95
DILUTION>	1.0
%MOIST>	10
CONC UNITS>	UG/KG

Phenol	370 U
bis(2-Chloroethyl)Ether	370 U
2-Chlorophenol	370 U
1,3-Dichlorobenzene	370 U
1,4-Dichlorobenzene	370 U
1,2-Dichlorobenzene	370 U
2-Methylphenol	370 U
2,2'-oxybis(1-Chloropropane	370 U
4-Methylphenol	370 U
N-Nitroso-Di-n-Propylamine	370 U
Hexachloroethane	370 U
Nitrobenzene	370 U
Isophorone	370 U
2-Nitrophenol	370 U
2,4-Dimethylphenol	370 U
bis(2-Chloroethoxy)Methane	370 U
2,4-Dichlorophenol	370 U
1,2,4-Trichlorobenzene	370 U
Naphthalene	370 U
4-Chloroaniline	370 U
Hexachlorobutadiene	370 U
4-Chloro-3-Methylphenol	370 U
2-Methylnaphthalene	370 U
Hexachlorocyclopentadiene	370 U
2,4,6-Trichlorophenol	370 U
2,4,5-Trichlorophenol	890 U
2-Chloronaphthalene	370 U
2-Nitroaniline	890 U
Dimethyl Phthalate	370 U
Acenaphthylene	370 U

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Semivolatiles

CLIENT SAMPLE ID>	**WV5SB0503**
LAB SAMPLE ID>	122246
LAB FILE ID>	F1701
MATRIX>	SOIL
DATE RECD>	04/20/95
DATE EXTD>	05/01/95
DATE ANAL>	05/09/95
DILUTION>	1.0
%MOIST>	10
CONC UNITS>	UG/KG

2,6-Dinitrotoluene	370 U
3-Nitroaniline	890 U
Acenaphthene	370 U
2,4-Dinitrophenol	890 U
4-Nitrophenol	890 U
Dibenzofuran	370 U
2,4-Dinitrotoluene	370 U
Diethylphthalate	370 U
4-Chlorophenyl-phenylether	370 U
Fluorene	370 U
4-Nitroaniline	890 U
4,6-Dinitro-2-Methylphenol	890 U
N-Nitrosodiphenylamine (1)	370 U
4-Bromophenyl-phenylether	370 U
Hexachlorobenzene	370 U
Pentachlorophenol	890 U
Phenanthrene	370 U
Anthracene	370 U
Carbazole	370 U
Di-n-Butylphthalate	370 U
Fluoranthene	370 U
Pyrene	370 U
Butylbenzylphthalate	370 U
3,3'-Dichlorobenzidine	370 U
Benzo(a)Anthracene	370 U
Chrysene	370 U
bis(2-Ethylhexyl)Phthalate	40 J
Di-n-Octyl Phthalate	370 U
Benzo(b)Fluoranthene	370 U
Benzo(k)Fluoranthene	370 U
Benzo(a)Pyrene	370 U
Indeno(1,2,3-cd)Pyrene	370 U
Dibenz(a,h)Anthracene	370 U
Benzo(g,h,i)Perylene	370 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 PCB's

CLIENT SAMPLE ID>	WV162	WV260	WV2SB0101	WV2SB0102	WV2SB0103	WV2SB0201
LAB SAMPLE ID>	122115	122107	122108	122109	122110	122203
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95	04/19/95
DATE EXTD>	04/28/95	04/28/95	04/28/95	04/28/95	04/28/95	04/28/95
DATE ANAL>	05/12/95	05/13/95	05/13/95	05/13/95	05/13/95	05/13/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	23	13	13	22	20	12
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	43 U	38 U	38 U	42 U	41 U	37 U
AR-1221	87 U	77 U	77 U	86 U	84 U	76 U
AR-1232	43 U	38 U	38 U	42 U	41 U	37 U
AR-1242	43 U	38 U	38 U	42 U	41 U	37 U
AR-1248	43 U	38 U	38 U	42 U	41 U	37 U
AR-1254	43 U	38 U	38 U	42 U	41 U	37 U
AR-1260	43 U	38 U	38 U	42 U	41 U	37 U

CLIENT SAMPLE ID>	WV2SB0202	WV2SB0203	WV2SB0301	WV2SB0302	WV2SB0303	WV5SB0402
LAB SAMPLE ID>	122204	122205	122104	122105	122106	122242
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/19/95	04/19/95	04/18/95	04/18/95	04/18/95	04/20/95
DATE EXTD>	04/28/95	04/28/95	04/28/95	04/28/95	04/28/95	04/28/95
DATE ANAL>	05/13/95	05/13/95	05/12/95	05/13/95	05/13/95	05/17/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	19	13	9	15	10	22
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	41 U	38 U	36 U	39 U	37 U	42 U
AR-1221	83 U	77 U	74 U	79 U	74 U	86 U
AR-1232	41 U	38 U	36 U	39 U	37 U	42 U
AR-1242	41 U	38 U	36 U	39 U	37 U	42 U
AR-1248	41 U	38 U	36 U	39 U	37 U	42 U
AR-1254	41 U	38 U	36 U	39 U	37 U	42 U
AR-1260	41 U	38 U	36 U	39 U	37 U	42 U

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R - Data are unuseable, resampling and reanalysis required for verification
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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 PCB's

CLIENT SAMPLE ID>	WV5SB0403	WV5SB0501	WV5SB0502	WV5SB0503
LAB SAMPLE ID>	122243	122244	122245	122246
MATRIX>	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/20/95	04/20/95	04/20/95	04/20/95
DATE EXTD>	04/28/95	04/28/95	04/28/95	04/28/95
DATE ANAL>	05/17/95	05/17/95	05/17/95	05/17/95
DILUTION>	1.00	1.00	1.00	1.00
%MOIST>	12	9	8	10
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	37 U	36 U	36 U	37 U
AR-1221	76 U	74 U	73 U	74 U
AR-1232	37 U	36 U	36 U	37 U
AR-1242	37 U	36 U	36 U	37 U
AR-1248	37 U	36 U	36 U	37 U
AR-1254	37 U	36 U	36 U	37 U
AR-1260	37 U	36 U	36 U	37 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1377 Metals

CLIENT SAMPLE ID>	WV2SB0201	WV2SB0202	WV2SB0203	WV1HA1101	WV1HA1102	WV1HA1201
LAB SAMPLE ID>	0-122203S	0-122204S	0-122205S	9-122111S	9-122112S	9-122113S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RCD>	04/19/95	04/19/95	04/19/95	04/18/95	04/18/95	04/18/95
PRCENT SOLIDS>	91.0	80.0	87.7	79.3	75.6	83.4
CONC UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	13.8 J	R	R	20.8 J	R
AS	4.1 J	3 J	1.4 J	2.1 J	18 J	3.8 J
BE	0.87	0.78	1.2	1	0.96	1.1
CD	2.4 J	3.1 J	4.2 J	3.1 J	59.5	3.7 J
CR	13.7	17.6	22.2	15	216	14.3
CU	23.6	17.1	39.1	16.4	780	17.7
PB	6.4	21	20.6	16.3	1180	45.1
HG	0.11 U	0.12 U	0.11 U	0.13 U	2	0.12 U
NI	19.3	11.9	43.1	47.3	151	17.3
SE	0.44 UJ	0.5 UJ	0.46 UJ	0.5 UJ	0.86 J	0.48 UJ
AG	1.2 J	0.75 UJ	0.85 J	1.2 J	32 J	1.2 J
TL	0.44 U	0.5 U	0.46 U	0.5 U	0.53 U	0.48 U
ZN	41.3	37.4	75.7	48.3	3110	44.3

CLIENT SAMPLE ID>	WV2SB0101	WV2SB0102	WV2SB0103	WV2SB0301	WV2SB0302	WV2SB0303
LAB SAMPLE ID>	9-122108S	9-122109S	9-122110S	9-122104S	9-122105S	9-122106S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RCD>	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95	04/18/95
PRCENT SOLIDS>	87.0	83.5	83.3	92.4	83.5	90.6
CONC UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R	R	R
AS	3.8 J	2.9 J	2 J	5.5 J	1.4 J	1.8 J
BE	1.1	1.2	0.8	1	1.1	0.5
CD	3.6 J	4.4 J	3 J	4.3 J	3.6 J	3 J
CR	18.2	15.9	20.9	18.3	12.9	9.4
CU	25.7	31	14.1	20	29.8	4.9
PB	27.4	13.2	12.3	31.9	20.8	7.5
HG	0.11 U	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U
NI	25.1	30.4	9.8	27.5	27.9	12.5
SE	0.46 UJ	0.48 UJ	0.48 UJ	0.43 UJ	0.48 UJ	0.44 UJ
AG	1 J	0.83 J	0.89 J	0.81 J	0.72 J	0.88 J
TL	0.46 U	0.48 U	0.48 U	0.43 U	0.48 U	0.44 U
ZN	48.5	71.3	35.1	49.7	53	37.6

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U - Compound was not detected and is below the reported detection limit

fd1377me.wk1

FD1377 Metals

CLIENT SAMPLE ID>	WV5SB0402	WV5SB0403	WV5SB0501	WV5SB0502	WV5SB0503	WV162
LAB SAMPLE ID>	7-122242S	7-122243S	7-122244S	7-122245S	7-122246S	9-122115S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RCD>	04/20/95	04/20/95	04/20/95	04/20/95	04/20/95	04/18/95
PRCENT SOLIDS>	88.5	96.9	93.2	92.4	90.5	85.5
CONC UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R	R	R
AS	2.5 J	7.6 J	3.2 J	3.7 J	11.3 J	10.3 J
BE	1.5	0.27	1.5	1.2	1.1	1.2
CD	4.3 J	1.9 J	3.3 J	4.1 J	4.6 J	2.8 J
CR	26.2	4.2	20.5	23	21.2	11.9
CU	36.3	8.4	46.9	29.2	34.7	14.1
PB	10.9	5.9	15.8	10.3	11.5	24.4
HG	0.11 U	0.11	0.11 U	0.11 U	0.11 U	0.13
NI	24.3	11.1	30.2	32.4	32.5	11.1
SE	0.45 UJ	0.41 UJ	0.46 J	0.43 UJ	0.44 UJ	0.48 J
AG	0.68 UJ	0.96 J	0.64 UJ	0.65 UJ	0.66 UJ	0.9 J
TL	0.45 U	0.41 UJ	0.43 U	0.43 UJ	0.44 UJ	0.47 U
ZN	35.3	26.3	41	43.2	59.8	36.5

CLIENT SAMPLE ID>	WV260
LAB SAMPLE ID>	9-122107S
MATRIX>	SOIL
DATE RCD>	04/18/95
PRCENT SOLIDS>	88.5
CONC UNITS	MG/KG
SB	R
AS	3.8 J
BE	1.2
CD	2.9 J
CR	13.4
CU	26.5
PB	25.4
HG	0.11 U
NI	20.4
SE	0.45 UJ
AG	0.68 UJ
TL	0.45 U
ZN	54

J - Concentration reported as an estimated value
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U - Compound was not detected and is below the reported detection limit

Volatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV254	WV255	WV2HA0101	WV2HA0102	WV2HA0201	WV2HA0202
LAB SAMPLE ID>	114450	114449	114463	114462	114460	114456
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE ANAL>	12/30/94	12/30/94	12/30/94	12/30/94	12/30/94	12/30/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	20	15	15	16	16
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	12 U	12 U	12 U	12 U	12 U
Bromomethane	12 U	12 U	12 U	12 U	12 U	12 U
Vinyl Chloride	12 U	12 U	12 U	12 U	12 U	12 U
Chloroethane	12 U	12 U	12 U	12 U	12 U	12 U
Methylene Chloride	12 U	12 U	12 U	12 U	12 U	15
Acetone	12 U	12 U	12 U	12 U	12 U	12 U
Carbon Disulfide	12 U	12 U	12 U	12 U	12 U	12 U
1,1-Dichloroethene	12 U	12 U	12 U	12 U	12 U	12 U
1,1-Dichloroethane	12 U	12 U	12 U	12 U	12 U	12 U
1,2-Dichloroethene (total)	12 U	12 U	12 U	12 U	12 U	12 U
Chloroform	12 U	12 U	12 U	12 U	12 U	12 U
1,2-Dichloroethane	12 U	12 U	12 U	12 U	12 U	12 U
2-Butanone	12 U	12 U	12 U	12 U	12 U	12 U
1,1,1-Trichloroethane	12 U	12 U	12 U	12 U	12 U	12 U
Carbon Tetrachloride	12 U	12 U	12 U	12 U	12 U	12 U
Bromodichloromethane	12 U	12 U	12 U	12 U	12 U	12 U
1,2-Dichloropropane	12 U	12 U	12 U	12 U	12 U	12 U
cis-1,3-Dichloropropene	12 U	12 U	12 U	12 U	12 U	12 U
Trichloroethene	12 U	12 U	12 U	12 U	12 U	12 U
Dibromochloromethane	12 U	12 U	12 U	12 U	12 U	12 U
1,1,2-Trichloroethane	12 U	12 U	12 U	12 U	12 U	12 U
Benzene	12 U	12 U	12 U	12 U	12 U	12 U
trans-1,3-Dichloropropene	12 U	12 U	12 U	12 U	12 U	12 U
Bromoform	12 U	12 U	12 U	12 U	12 U	12 U
4-Methyl-2-Pentanone	12 U	12 U	12 U	12 U	12 U	12 U
2-Hexanone	12 U	12 U	12 U	12 U	12 U	12 U
Tetrachloroethene	12 U	12 U	12 U	12 U	12 U	12 U
1,1,2,2-Tetrachloroethane	12 U	12 U	12 U	12 U	12 U	12 U
Toluene	12 U	12 U	12 U	12 U	12 U	12 U
Chlorobenzene	12 U	12 U	12 U	12 U	12 U	12 U
Ethylbenzene	12 U	12 U	12 U	12 U	12 U	12 U
Styrene	12 U	12 U	12 U	12 U	12 U	12 U
Xylene (total)	12 U	12 U	12 U	12 U	12 U	12 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Volatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0301	WV2HA0401	WV2HA0501	WV2HA0502	WV2HA0601	WV2HA0602
LAB SAMPLE ID>	114454	114452	114451	114448	114453	114455
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE ANAL>	12/30/94	12/29/94	12/30/94	12/29/94	12/31/94	12/29/94
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	7	16	22	21	21	15
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	12 U	13 U	13 U	13 U	12 U
Bromomethane	11 U	12 U	13 U	13 U	13 U	12 U
Vinyl Chloride	11 U	12 U	13 U	13 U	13 U	12 U
Chloroethane	11 U	12 U	13 U	13 U	13 U	12 U
Methylene Chloride	11 U	12 U	13 U	13 U	13 U	12 U
Acetone	11 U	14	13 U	13 U	13 U	12 U
Carbon Disulfide	11 U	12 U	13 U	13 U	13 U	12 U
1,1-Dichloroethene	11 U	12 U	13 U	13 U	13 U	12 U
1,1-Dichloroethane	11 U	12 U	13 U	13 U	13 U	12 U
1,2-Dichloroethene (total)	11 U	12 U	13 U	13 U	13 U	12 U
Chloroform	11 U	12 U	13 U	13 U	13 U	12 U
1,2-Dichloroethane	11 U	12 U	13 U	13 U	13 U	12 U
2-Butanone	11 U	12 U	13 U	13 U	13 U	12 U
1,1,1-Trichloroethane	11 U	12 U	13 U	13 U	13 U	12 U
Carbon Tetrachloride	11 U	12 U	13 U	13 U	13 U	12 U
Bromodichloromethane	11 U	12 U	13 U	13 U	13 U	12 U
1,2-Dichloropropane	11 U	12 U	13 U	13 U	13 U	12 U
cis-1,3-Dichloropropene	11 U	12 U	13 U	13 U	13 U	12 U
Trichloroethene	11 U	12 U	13 U	13 U	13 U	12 U
Dibromochloromethane	11 U	12 U	13 U	13 U	13 U	12 U
1,1,2-Trichloroethane	11 U	12 U	13 U	13 U	13 U	12 U
Benzene	11 U	12 U	13 U	13 U	13 U	12 U
trans-1,3-Dichloropropene	11 U	12 U	13 U	13 U	13 U	12 U
Bromoform	11 U	12 U	13 U	13 U	13 U	12 U
4-Methyl-2-Pentanone	11 U	12 U	13 U	13 U	13 U	12 U
2-Hexanone	11 U	12 U	13 U	13 U	13 U	12 U
Tetrachloroethene	11 U	12 U	13 U	13 U	13 U	12 U
1,1,2,2-Tetrachloroethane	11 U	12 U	13 U	13 U	13 U	12 U
Toluene	11 U	12 U	13 U	13 U	13 U	12 U
Chlorobenzene	11 U	12 U	13 U	13 U	13 U	12 U
Ethylbenzene	11 U	12 U	13 U	13 U	13 U	12 U
Styrene	11 U	12 U	13 U	13 U	13 U	12 U
Xylene (total)	11 U	12 U	13 U	13 U	13 U	12 U

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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Volatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0701	WV2HA0801	WV3HA0201	WV3HA0202
LAB SAMPLE ID>	114459	114461	114458	114457
MATRIX>	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94
DATE ANAL>	12/30/94	12/30/94	12/30/94	12/29/94
DILUTION>	1.0	1.0	1.0	1.0
%MOIST>	16	25	13	4
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	12 U	13 U	11 U	10 U
Bromomethane	12 U	13 U	11 U	10 U
Vinyl Chloride	12 U	13 U	11 U	10 U
Chloroethane	12 U	13 U	11 U	10 U
Methylene Chloride	1 J	13 U	11 U	10 U
Acetone	24	13 U	11 U	10 U
Carbon Disulfide	12 U	13 U	11 U	10 U
1,1-Dichloroethene	12 U	13 U	11 U	10 U
1,1-Dichloroethane	12 U	13 U	11 U	10 U
1,2-Dichloroethene (total)	12 U	13 U	11 U	10 U
Chloroform	12 U	13 U	11 U	10 U
1,2-Dichloroethane	12 U	13 U	11 U	10 U
2-Butanone	12 U	13 U	11 U	10 U
1,1,1-Trichloroethane	12 U	13 U	11 U	10 U
Carbon Tetrachloride	12 U	13 U	11 U	10 U
Bromodichloromethane	12 U	13 U	11 U	10 U
1,2-Dichloropropane	12 U	13 U	11 U	10 U
cis-1,3-Dichloropropene	12 U	13 U	11 U	10 U
Trichloroethene	12 U	13 U	11 U	10 U
Dibromochloromethane	12 U	13 U	11 U	10 U
1,1,2-Trichloroethane	12 U	13 U	11 U	10 U
Benzene	12 U	13 U	11 U	10 U
trans-1,3-Dichloropropene	12 U	13 U	11 U	10 U
Bromoform	12 U	13 U	11 U	10 U
4-Methyl-2-Pentanone	12 U	13 U	11 U	10 U
2-Hexanone	12 U	13 U	11 U	10 U
Tetrachloroethene	12 U	13 U	11 U	10 U
1,1,2,2-Tetrachloroethane	12 U	13 U	11 U	10 U
Toluene	12 U	13 U	11 U	10 U
Chlorobenzene	12 U	13 U	11 U	10 U
Ethylbenzene	12 U	13 U	11 U	10 U
Styrene	12 U	13 U	11 U	10 U
Xylene (total)	12 U	13 U	11 U	10 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Volatile Organics CLP 10/92 FD1282

CLIENT SAMPLE ID>	WV2EB04	WV2TB06
LAB SAMPLE ID>	114465	114464
MATRIX>	WATER	WATER
DATE RECD.>	12/20/94	12/20/94
DATE ANAL.>	12/23/94	12/23/94
DILUTION>	0.6	0.6
CONC. UNITS>	UG/L	UG/L
Chloromethane	1 U	1 U
Bromomethane	1 U	1 U
Vinyl Chloride	1 U	1 U
Chloroethane	1 U	1 U
Methylene Chloride	0.5 J	0.8 J
Acetone	5 U	5 U
Carbon Disulfide	1 U	1 U
1,1-Dichloroethene	1 U	1 U
1,1-Dichloroethene	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U
Chloroform	1 U	1 U
1,2-Dichloroethene	1 U	1 U
2-Butanone	5 R	5 R
Bromochloromethane	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U
Carbon Tetrachloride	1 U	1 U
Bromodichloromethane	1 U	1 U
1,2-Dichloropropane	1 U	1 U
cis-1,3-Dibromoethane	1 U	1 U
Trichloroethene	1 U	1 U
1,2-Dibromoethane	1 U	1 U
Dibromochloromethane	1 U	1 U
1,1,2-Trichloroethene	1 U	1 U
Benzene	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U
Bromoform	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U
2-Hexanone	5 U	5 U
Tetrachloroethene	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U
Toluene	1 U	1 U
Chlorobenzene	1 U	1 U
Ethylbenzene	1 U	1 U
Styrene	1 U	1 U
Xylene (total)	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV254	WV255	WV2EB04	WV2HA0101	WV2HA0102	WV2HA0201
LAB SAMPLE ID>	114450	114449	114465	114463	114462	114460
MATRIX>	SOIL	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/21/94	12/31/94	12/30/94	12/31/94
DATE ANAL>	01/16/95	01/16/95	12/27/94	01/18/95	01/18/95	01/18/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	20		14	13	12
CONC UNITS>	UG/KG	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
Phenol	380 U	410 U	10 U	380 U	380 U	370 U
bis(2-Chloroethyl)Ether	380 U	410 U	10 U	380 U	380 U	370 U
2-Chlorophenol	380 U	410 U	10 U	380 U	380 U	370 U
1,3-Dichlorobenzene	380 U	410 U	10 U	380 U	380 U	370 U
1,4-Dichlorobenzene	380 U	410 U	10 U	380 U	380 U	370 U
1,2-Dichlorobenzene	380 U	410 U	10 U	380 U	380 U	370 U
2-Methylphenol	380 U	410 U	10 U	380 U	380 U	370 U
2,2'-oxybis(1-Chloropropane	380 U	410 U	10 U	380 U	380 U	370 U
4-Methylphenol	380 U	410 U	10 U	380 U	380 U	370 U
N-Nitroso-Di-n-Propylamine	380 U	410 U	10 U	380 U	380 U	370 U
Hexachloroethane	380 U	410 U	10 U	380 U	380 U	370 U
Nitrobenzene	380 U	410 U	10 U	380 U	380 U	370 U
Isophorone	380 U	410 U	10 U	380 U	380 U	370 U
2-Nitrophenol	380 U	410 U	10 U	380 U	380 U	370 U
2,4-Dimethylphenol	380 U	410 U	10 U	380 U	380 U	370 U
bis(2-Chloroethoxy)Methane	380 U	410 U	10 U	380 U	380 U	370 U
2,4-Dichlorophenol	380 U	410 U	10 U	380 U	380 U	370 U
1,2,4-Trichlorobenzene	380 U	410 U	10 U	380 U	380 U	370 U
Naphthalene	380 U	410 U	10 U	380 U	380 U	370 U
4-Chloroaniline	380 U	410 U	10 U	380 U	380 U	370 U
Hexachlorobutadiene	380 U	410 U	10 U	380 U	380 U	370 U
4-Chloro-3-Methylphenol	380 U	410 U	10 U	380 U	380 U	370 U
2-Methylnaphthalene	380 U	410 U	10 U	380 U	380 U	370 U
Hexachlorocyclopentadiene	380 U	410 U	10 U	380 U	380 U	370 U
2,4,6-Trichlorophenol	380 U	410 U	10 U	380 U	380 U	370 U
2,4,5-Trichlorophenol	930 U	1000 U	24 U	930 U	920 U	910 U
2-Chloronaphthalene	380 U	410 U	10 U	380 U	380 U	370 U
2-Nitroaniline	930 U	1000 U	24 U	930 U	920 U	910 U
Dimethyl Phthalate	380 U	410 U	10 U	380 U	380 U	370 U
Acenaphthylene	380 U	410 U	10 U	380 U	380 U	370 U
2,6-Dinitrotoluene	380 U	410 U	10 U	380 U	380 U	370 U
3-Nitroaniline	930 U	1000 U	24 U	930 U	920 U	910 U
Acenaphthene	380 U	410 U	10 U	380 U	380 U	370 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV254	WV255	WV2EB04	WV2HA0101	WV2HA0102	WV2HA0201
LAB SAMPLE ID>	114450	114449	114465	114463	114462	114460
MATRIX>	SOIL	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/21/94	12/31/94	12/30/94	12/31/94
DATE ANAL>	01/16/95	01/16/95	12/27/94	01/18/95	01/18/95	01/18/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	20		14	13	12
CONC UNITS>	UG/KG	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	930 U	1000 U	24 U	930 U	920 U	910 U
4-Nitrophenol	930 U	1000 U	24 U	930 U	920 U	910 U
Dibenzofuran	380 U	410 U	10 U	380 U	380 U	370 U
2,4-Dinitrotoluene	380 U	410 U	10 U	380 U	380 U	370 U
Diethylphthalate	380 U	410 U	10 U	380 U	380 U	370 U
4-Chlorophenyl-phenylether	380 U	410 U	10 U	380 U	380 U	370 U
Fluorene	380 U	410 U	10 U	380 U	380 U	370 U
4-Nitroaniline	930 U	1000 U	24 U	930 U	920 U	910 U
4,6-Dinitro-2-Methylphenol	930 U	1000 U	24 U	930 U	920 U	910 U
N-Nitrosodiphenylamine (1)	380 U	410 U	10 U	380 U	380 U	370 U
4-Bromophenyl-phenylether	380 U	410 U	10 U	380 U	380 U	370 U
Hexachlorobenzene	380 U	410 U	10 U	380 U	380 U	370 U
Pentachlorophenol	930 U	1000 U	24 U	930 U	920 U	910 U
Phenanthrene	51 J	410 U	10 U	110 J	42 J	370 U
Anthracene	380 U	410 U	10 U	380 U	380 U	370 U
Carbazole	380 U	410 U	10 U	380 U	380 U	370 U
Di-n-Butylphthalate	380 U	410 U	10 U	380 U	380 U	370 U
Fluoranthene	240 J	410 U	10 U	330 J	100 J	76 J
Pyrene	190 J	410 U	10 U	240 J	75 J	62 J
Butylbenzylphthalate	380 U	410 U	10 U	380 U	380 U	370 U
3,3'-Dichlorobenzidine	380 U	410 U	10 U	380 U	380 U	370 U
Benzo(a)Anthracene	150 J	410 U	10 U	160 J	65 J	37 J
Chrysene	170 J	410 U	10 U	180 J	73 J	54 J
bis(2-Ethylhexyl)Phthalate	380 U	410 U	10 U	380 U	380 U	370 U
Di-n-Octyl Phthalate	380 U	410 U	10 U	380 U	380 U	370 U
Benzo(b)Fluoranthene	170 J	410 U	10 U	170 J	61 J	41 J
Benzo(k)Fluoranthene	170 J	410 U	10 U	150 J	53 J	44 J
Benzo(a)Pyrene	170 J	410 U	10 U	180 J	58 J	42 J
Indeno(1,2,3-cd)Pyrene	130 J	410 U	10 U	120 J	37 J	370 U
Dibenz(a,h)Anthracene	53 J	410 U	10 U	48 J	380 U	370 U
Benzo(g,h,i)Perylene	160 J	410 U	10 U	150 J	44 J	37 J

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0202	WV2HA0301	WV2HA0401	WV2HA0501	WV2HA0502	WV2HA0601
LAB SAMPLE ID>	114456	114454	114452	114451	114448	114453
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/16/95	01/16/95	01/16/95	01/16/95	01/16/95	01/16/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	13	14	23	35	20
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	380 U	380 U	380 U	430 U	510 U	410 U
bis(2-Chloroethyl)Ether	380 U	380 U	380 U	430 U	510 U	410 U
2-Chlorophenol	380 U	380 U	380 U	430 U	510 U	410 U
1,3-Dichlorobenzene	380 U	380 U	380 U	430 U	510 U	410 U
1,4-Dichlorobenzene	380 U	380 U	380 U	430 U	510 U	410 U
1,2-Dichlorobenzene	380 U	380 U	380 U	430 U	510 U	410 U
2-Methylphenol	380 U	380 U	380 U	430 U	510 U	410 U
2,2'-oxybis(1-Chloropropane	380 U	380 U	380 U	430 U	510 U	410 U
4-Methylphenol	380 U	380 U	380 U	430 U	510 U	410 U
N-Nitroso-Di-n-Propylamine	380 U	380 U	380 U	430 U	510 U	410 U
Hexachloroethane	380 U	380 U	380 U	430 U	510 U	410 U
Nitrobenzene	380 U	380 U	380 U	430 U	510 U	410 U
Isophorone	380 U	380 U	380 U	430 U	510 U	410 U
2-Nitrophenol	380 U	380 U	380 U	430 U	510 U	410 U
2,4-Dimethylphenol	380 U	380 U	380 U	430 U	510 U	410 U
bis(2-Chloroethoxy)Methane	380 U	380 U	380 U	430 U	510 U	410 U
2,4-Dichlorophenol	380 U	380 U	380 U	430 U	510 U	410 U
1,2,4-Trichlorobenzene	380 U	380 U	380 U	430 U	510 U	410 U
Naphthalene	380 U	380 U	380 U	430 U	510 U	410 U
4-Chloroaniline	380 U	380 U	380 U	430 U	510 U	410 U
Hexachlorobutadiene	380 U	380 U	380 U	430 U	510 U	410 U
4-Chloro-3-Methylphenol	380 U	380 U	380 U	430 U	510 U	410 U
2-Methylnaphthalene	380 U	380 U	380 U	430 U	510 U	410 U
Hexachlorocyclopentadiene	380 U	380 U	380 U	430 U	510 U	410 U
2,4,6-Trichlorophenol	380 U	380 U	380 U	430 U	510 U	410 U
2,4,5-Trichlorophenol	930 U	920 U	930 U	1000 U	1200 U	1000 U
2-Chloronaphthalene	380 U	380 U	380 U	430 U	510 U	410 U
2-Nitroaniline	930 U	920 U	930 U	1000 U	1200 U	1000 U
Dimethyl Phthalate	380 U	380 U	380 U	430 U	510 U	410 U
Acenaphthylene	380 U	50 J	380 U	430 U	510 U	410 U
2,6-Dinitrotoluene	380 U	380 U	380 U	430 U	510 U	410 U
3-Nitroaniline	930 U	920 U	930 U	1000 U	1200 U	1000 U
Acenaphthene	380 U	380 U	380 U	430 U	510 U	410 U

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U - Compound was not detected and is below the reported detection limit

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D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0202	WV2HA0301	WV2HA0401	WV2HA0501	WV2HA0502	WV2HA0601
LAB SAMPLE ID>	114456	114454	114452	114451	114448	114453
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/16/95	01/16/95	01/16/95	01/16/95	01/16/95	01/16/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	14	13	14	23	35	20
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	930 U	920 U	930 U	1000 U	1200 U	1000 U
4-Nitrophenol	930 U	920 U	930 U	1000 U	1200 U	1000 U
Dibenzofuran	380 U	380 U	380 U	430 U	510 U	410 U
2,4-Dinitrotoluene	380 U	380 U	380 U	430 U	510 U	410 U
Diethylphthalate	380 U	380 U	380 U	430 U	510 U	410 U
4-Chlorophenyl-phenylether	380 U	380 U	380 U	430 U	510 U	410 U
Fluorene	380 U	380 U	380 U	430 U	510 U	410 U
4-Nitroaniline	930 U	920 U	930 U	1000 U	1200 U	1000 U
4,6-Dinitro-2-Methylphenol	930 U	920 U	930 U	1000 U	1200 U	1000 U
N-Nitrosodiphenylamine (1)	380 U	380 U	380 U	430 U	510 U	410 U
4-Bromophenyl-phenylether	380 U	380 U	380 U	430 U	510 U	410 U
Hexachlorobenzene	380 U	380 U	380 U	430 U	510 U	410 U
Pentachlorophenol	930 U	920 U	930 U	1000 U	1200 U	1000 U
Phenanthrene	380 U	260 J	380 U	430 U	510 U	410 U
Anthracene	380 U	54 J	380 U	430 U	510 U	410 U
Carbazole	380 U	37 J	380 U	430 U	510 U	410 U
Di-n-Butylphthalate	380 U	380 U	380 U	430 U	510 U	410 U
Fluoranthene	380 U	690	380 U	430 U	510 U	410 U
Pyrene	380 U	590	380 U	430 U	510 U	410 U
Butylbenzylphthalate	380 U	380 U	380 U	430 U	510 U	410 U
3,3'-Dichlorobenzidine	380 U	380 U	380 U	430 U	510 U	410 U
Benzo(a)Anthracene	380 U	390	380 U	430 U	510 U	410 U
Chrysene	380 U	420	380 U	430 U	510 U	410 U
bis(2-Ethylhexyl)Phthalate	380 U	380 U	120 J	430 U	510 U	410 U
Di-n-Octyl Phthalate	380 U	380 U	380 U	430 U	510 U	410 U
Benzo(b)Fluoranthene	380 U	440	380 U	430 U	510 U	410 U
Benzo(k)Fluoranthene	380 U	370 J	380 U	430 U	510 U	410 U
Benzo(a)Pyrene	380 U	440	380 U	430 U	510 U	410 U
Indeno(1,2,3-cd)Pyrene	380 U	290 J	380 U	430 U	510 U	410 U
Dibenz(a,h)Anthracene	380 U	110 J	380 U	430 U	510 U	410 U
Benzo(g,h,i)Perylene	380 U	320 J	380 U	430 U	510 U	410 U

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Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0602	WV2HA0701	WV2HA0801	WV3HA0201	WV3HA0202
LAB SAMPLE ID>	114455	114459	114461	114458	114457
LAB FILE ID>	F0309	F0313	F0353	F0312	F0311
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/16/95	01/17/95	01/18/95	01/16/95	01/16/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	19	23	24	10	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	410 U	430 U	430 U	370 U	370 U
bis(2-Chloroethyl)Ether	410 U	430 U	430 U	370 U	370 U
2-Chlorophenol	410 U	430 U	430 U	370 U	370 U
1,3-Dichlorobenzene	410 U	430 U	430 U	370 U	370 U
1,4-Dichlorobenzene	410 U	430 U	430 U	370 U	370 U
1,2-Dichlorobenzene	410 U	430 U	430 U	370 U	370 U
2-Methylphenol	410 U	430 U	430 U	370 U	370 U
2,2'-oxybis(1-Chloropropane	410 U	430 U	430 U	370 U	370 U
4-Methylphenol	410 U	430 U	430 U	370 U	370 U
N-Nitroso-Di-n-Propylamine	410 U	430 U	430 U	370 U	370 U
Hexachloroethane	410 U	430 U	430 U	370 U	370 U
Nitrobenzene	410 U	430 U	430 U	370 U	370 U
Isophorone	410 U	430 U	430 U	370 U	370 U
2-Nitrophenol	410 U	430 U	430 U	370 U	370 U
2,4-Dimethylphenol	410 U	430 U	430 U	370 U	370 U
bis(2-Chloroethoxy)Methane	410 U	430 U	430 U	370 U	370 U
2,4-Dichlorophenol	410 U	430 U	430 U	370 U	370 U
1,2,4-Trichlorobenzene	410 U	430 U	430 U	370 U	370 U
Naphthalene	410 U	430 U	430 U	370 U	370 U
4-Chloroaniline	410 U	430 U	430 U	370 U	370 U
Hexachlorobutadiene	410 U	430 U	430 U	370 U	370 U
4-Chloro-3-Methylphenol	410 U	430 U	430 U	370 U	370 U
2-Methylnaphthalene	410 U	430 U	430 U	370 U	370 U
Hexachlorocyclopentadiene	410 U	430 U	430 U	370 U	370 U
2,4,6-Trichlorophenol	410 U	430 U	430 U	370 U	370 U
2,4,5-Trichlorophenol	990 U	1000 U	1100 U	890 U	900 U
2-Chloronaphthalene	410 U	430 U	430 U	370 U	370 U
2-Nitroaniline	990 U	1000 U	1100 U	890 U	900 U
Dimethyl Phthalate	410 U	430 U	430 U	370 U	370 U
Acenaphthylene	410 U	430 U	430 U	370 U	370 U
2,6-Dinitrotoluene	410 U	430 U	430 U	370 U	370 U
3-Nitroaniline	990 U	1000 U	1100 U	890 U	900 U
Acenaphthene	410 U	180 J	430 U	370 U	370 U

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

Semivolatile Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0602	WV2HA0701	WV2HA0801	WV3HA0201	WV3HA0202
LAB SAMPLE ID>	114455	114459	114461	114458	114457
LAB FILE ID>	F0309	F0313	F0353	F0312	F0311
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/31/94	12/31/94	12/31/94	12/31/94	12/31/94
DATE ANAL>	01/16/95	01/17/95	01/18/95	01/16/95	01/16/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	19	23	24	10	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	990 U	1000 U	1100 U	890 U	900 U
4-Nitrophenol	990 U	1000 U	1100 U	890 U	900 U
Dibenzofuran	410 U	93 J	430 U	370 U	370 U
2,4-Dinitrotoluene	410 U	430 U	430 U	370 U	370 U
Diethylphthalate	410 U	430 U	430 U	370 U	370 U
4-Chlorophenyl-phenylether	410 U	430 U	430 U	370 U	370 U
Fluorene	410 U	190 J	430 U	370 U	370 U
4-Nitroaniline	990 U	1000 U	1100 U	890 U	900 U
4,6-Dinitro-2-Methylphenol	990 U	1000 U	1100 U	890 U	900 U
N-Nitrosodiphenylamine (1)	410 U	430 U	430 U	370 U	370 U
4-Bromophenyl-phenylether	410 U	430 U	430 U	370 U	370 U
Hexachlorobenzene	410 U	430 U	430 U	370 U	370 U
Pentachlorophenol	990 U	1000 U	1100 U	890 U	900 U
Phenanthrene	410 U	1400	120 J	370 U	370 U
Anthracene	410 U	310 J	430 U	370 U	370 U
Carbazole	410 U	240 J	430 U	370 U	370 U
Di-n-Butylphthalate	410 U	430 U	430 U	370 U	370 U
Fluoranthene	410 U	2500	340 J	370 U	370 U
Pyrene	410 U	1900	250 J	370 U	370 U
Butylbenzylphthalate	410 U	430 U	430 U	370 U	370 U
3,3'-Dichlorobenzidine	410 U	430 U	430 U	370 U	370 U
Benzo(a)Anthracene	410 U	1000	160 J	370 U	370 U
Chrysene	410 U	1000	190 J	370 U	370 U
bis(2-Ethylhexyl)Phthalate	130 J	98 J	110 J	370 U	370 U
Di-n-Octyl Phthalate	410 U	430 U	430 U	370 U	370 U
Benzo(b)Fluoranthene	410 U	700	130 J	370 U	370 U
Benzo(k)Fluoranthene	410 U	830	140 J	370 U	370 U
Benzo(a)Pyrene	410 U	830	150 J	370 U	370 U
Indeno(1,2,3-cd)Pyrene	410 U	450	97 J	370 U	370 U
Dibenz(a,h)Anthracene	410 U	200 J	430 U	370 U	370 U
Benzo(g,h,i)Perylene	410 U	490	120 J	370 U	370 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCB Organics CLP FD1282

CLIENT SAMPLE ID>	WV254	WV255	WV2EB04	WV2HA0101	WV2HA0102	WV2HA0201
LAB SAMPLE ID>	114450	114449	114465	114463	114462	114460
MATRIX>	SOIL	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/29/94	12/29/94	12/22/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/13/95	01/13/95	01/06/95	01/14/95	01/14/95	01/13/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	14	20		14	13	12
CONC UNITS>	UG/KG	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
AR-1016	38 U	41 U	0.96 U	38 U	38 U	37 U
AR-1221	78 U	84 U	1.9 U	78 U	77 U	76 U
AR-1232	38 U	41 U	0.96 U	38 U	38 U	37 U
AR-1242	38 U	41 U	0.96 U	38 U	38 U	37 U
AR-1248	38 U	41 U	0.96 U	38 U	38 U	37 U
AR-1254	38 U	41 U	0.96 U	38 U	38 U	37 U
AR-1260	38 U	41 U	0.96 U	38 U	38 U	37 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCB Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0202	WV2HA0301	WV2HA0401	WV2HA0501	WV2HA0502	WV2HA0601
LAB SAMPLE ID>	114456	114454	114452	114451	114448	114453
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/13/95	01/13/95	01/13/95	01/13/95	01/13/95	01/13/95
DILUTION>	1.00	1.00	1.00	1.00	1.00	1.00
%MOIST>	14	13	14	23	35	20
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	38 U	38 U	38 U	43 U	51 U	41 U
AR-1221	78 U	77 U	78 U	87 U	100 U	84 U
AR-1232	38 U	38 U	38 U	43 U	51 U	41 U
AR-1242	38 U	38 U	38 U	43 U	51 U	41 U
AR-1248	38 U	38 U	38 U	43 U	51 U	41 U
AR-1254	38 U	38 U	38 U	43 U	51 U	41 U
AR-1260	38 U	38 U	38 U	43 U	51 U	41 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

PCB Organics CLP FD1282

CLIENT SAMPLE ID>	WV2HA0602	WV2HA0701	WV2HA0801	WV3HA0201	WV3HA0202
LAB SAMPLE ID>	114455	114459	114461	114458	114457
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
DATE EXTD>	12/29/94	12/29/94	12/29/94	12/29/94	12/29/94
DATE ANAL>	01/13/95	01/13/95	01/14/95	01/13/95	01/13/95
DILUTION>	1.00	1.00	1.00	1.00	1.00
%MOIST>	19	23	24	10	11
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	41 U	43 U	43 U	37 U	37 U
AR-1221	83 U	87 U	88 U	74 U	75 U
AR-1232	41 U	43 U	43 U	37 U	37 U
AR-1242	41 U	43 U	43 U	37 U	37 U
AR-1248	41 U	43 U	43 U	37 U	37 U
AR-1254	41 U	43 U	43 U	37 U	37 U
AR-1260	41 U	43 U	43 U	37 U	37 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
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B - Analyte was found in the associated method blank
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Priority Pollutant Metals FD1282

CLIENT SAMPLE ID>	WV3HA0201	WV3HA0202	WV2EB04	WV2HA0101	WV2HA0102	WV2HA0201
LAB SAMPLE ID>	5-114458S	5-114457S	5-114465S	5-114463S	5-114462S	5-114460S
MATRIX>	SOIL	SOIL	WATER	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
PRCNT SOLIDS>	89.2	90.2	0.0	72.5	84.6	86.3
CONC UNITS>	MG/KG	MG/KG	UG/L	MG/KG	MG/KG	MG/KG
SB	5.6 UJ	5.5 UJ	25 U	7.6 J	5.9 UJ	5.8 UJ
AS	15 J	1.2 J	2 U	8.5 J	2.5 J	2.4 J
BE	1.5	1.5	1 U	1.4	1.9	1.4
CD	2.4 J	5.6 J	4.6	5.9 J	6 J	3.9 J
CR	18.4	25.7	6 U	18.8	28.9	21.2
CU	45.4	32.5	3 U	32.1	37.9	29
PB	36.5	10.8	2	31.6	21.4	20.7
HG	0.17	0.11 U	0.2 U	0.14 U	0.16 J	0.12 U
NI	35.6	33.7	15 U	27.6	34.3	26.8
SE	0.65 J	0.44 UJ	2 U	0.86 J	0.47 UJ	0.46 U
AG	0.67 UJ	0.67 UJ	3 U	0.83 UJ	0.98 J	0.7 U
TL	0.45 UJ	0.44 U	2 U	0.55 UJ	0.47 U	0.46 U
ZN	40.4	62.5	5 U	54.5	48.9	45.5

J - Concentration reported as an estimated value
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U - Compound was not detected and is below the reported detection limit

Priority Pollutant Metals FD1282

CLIENT SAMPLE ID>	WV2HA0202	WV2HA0301	WV2HA0401	WV2HA0501	WV2HA0502	WV2HA0601
LAB SAMPLE ID>	5-114456S	5-114454S	5-114452S	5-114451S	5-114448S	5-114453S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
PRCNT SOLIDS>	83.0	87.4	83.1	76.9	61.7	82.5
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	6 UJ	5.7 UJ	6 UJ	6.5 UJ	8.1 UJ	6.1 UJ
AS	1.3 J	1.7 J	2.5 J	2.3 J	2.6 J	2.1 J
BE	1.3	0.94	0.63	0.41	0.44	0.42
CD	6.4 J	3.6 J	4 J	1.5 J	1.4 J	1.4 J
CR	20	15.6	19	8.7	8.5	10.1
CU	30.1	21.3	10.3	7.4	7.9	7.1
PB	24.6	24.4	9.5	20.9	22.8	19.4
HG	0.15	0.14	0.13 J	0.13 U	0.17	0.12 U
NI	26.1	20.9	8.6	6.2	5.9	9.8
SE	0.48 UJ	0.46 UJ	0.52 J	0.64 J	0.94 J	0.57 J
AG	0.72 U	0.69 UJ	0.72 UJ	0.78 UJ	0.97 UJ	0.73 U
TL	0.48 U	0.46 U	0.48 U	0.52 U	0.65 U	0.48 U
ZN	70.3	46.8	41.9	30.6	29.2	28.4

J - Concentration reported as an estimated value
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Priority Pollutant Metals FD1282

CLIENT SAMPLE ID>	WV2HA0602	WV2HA0701	WV2HA0801	WV254	WV255
LAB SAMPLE ID>	5-114455S	5-114459S	5-114461S	5-114450S	5-114449S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	12/20/94	12/20/94	12/20/94	12/20/94	12/20/94
PRCNT SOLIDS>	80.6	79.4	66.4	85.2	81.3
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	6.2 UJ	6.3 UJ	7.5 UJ	5.9 UJ	6.2 UJ
AS	1.4 J	1.8 J	1.9 J	2.1 J	2.1 J
BE	0.39	1	1.3	1.2	0.43
CD	1.2 J	2.9 J	5 J	2.9 J	1.8 J
CR	7.4	19.7	25.8	15.3	8.7
CU	3.8 J	22.7	27.7	38	7.5
PB	7.2	57.8	114	20.5	13.9
HG	0.12 U	0.13 U	0.15 U	0.12 U	0.12 J
NI	8.1	19.9	28.9	25.4	7.1
SE	0.53 J	0.5 UJ	0.6 UJ	0.47 UJ	0.5 J
AG	0.74 UJ	0.76 UJ	1.1 J	0.7 UJ	0.9 J
TL	0.5 U	0.5 U	0.6 U	0.47 U	0.49 U
ZN	26.5	74.2	63.3	42.7	30.1

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

FD1373 Volatile Organics

CLIENT SAMPLE ID>	WV561	WV5SB0101	WV5SB0201	WV5SB0202	WV5SB0301
LAB SAMPLE ID>	122074	122075	122076	122077	122073
LAB FILE ID>	H3191	H3192	H3212	H3215	H3228
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/15/95	04/15/95	04/15/95
DATE EXTD>	NA	NA	NA	NA	NA
DATE ANAL>	04/23/95	04/23/95	04/24/95	04/24/95	04/25/95
DILUTION>	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	12	8	15	13
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane	11 U	11 U	11 U	12 U	11 U
Bromomethane	11 U	11 U	11 U	12 U	11 U
Vinyl Chloride	11 U	11 U	11 U	12 U	11 U
Chloroethane	11 U	11 U	11 U	12 U	11 U
Methylene Chloride	11 U	11 U	11 U	12 U	11 U
Acetone	11 U	21 U	11 U	12 U	13 U
Carbon Disulfide	11 U	11 U	11 U	12 U	11 U
1,1-Dichloroethene	11 U	11 U	11 U	12 U	11 U
1,1-Dichloroethane	11 U	11 U	11 U	12 U	11 U
1,2-Dichloroethene (total)	11 U	11 U	11 U	12 U	11 U
Chloroform	11 U	11 U	11 U	12 U	11 U
1,2-Dichloroethane	11 U	11 U	11 U	12 U	11 U
2-Butanone	11 U	11 U	11 U	12 U	11 U
1,1,1-Trichloroethane	11 U	11 U	11 U	12 U	11 U
Carbon Tetrachloride	11 U	11 U	11 U	12 U	11 U
Bromodichloromethane	11 U	11 U	11 U	12 U	11 U
1,2-Dichloropropane	11 U	11 U	11 U	12 U	11 U
cis-1,3-Dichloropropene	11 U	11 U	11 U	12 U	11 U
Trichloroethene	11 U	11 U	11 U	12 U	11 U
Dibromochloromethane	11 U	11 U	11 U	12 U	11 U
1,1,2-Trichloroethane	11 U	11 U	11 U	12 U	11 U
Benzene	11 U	11 U	11 U	12 U	11 U
trans-1,3-Dichloropropene	11 U	11 U	11 U	12 U	11 U
Bromoform	11 U	11 U	11 U	12 U	11 U
4-Methyl-2-Pentanone	11 U	11 U	11 U	12 U	11 U
2-Hexanone	11 U	11 U	11 U	12 U	11 U
Tetrachloroethene	11 U	11 U	11 U	12 U	11 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	12 U	11 U
Toluene	11 U	11 U	11 U	12 U	11 U
Chlorobenzene	11 U	11 U	11 U	12 U	11 U
Ethylbenzene	11 U	11 U	11 U	12 U	11 U
Styrene	11 U	11 U	11 U	12 U	11 U
Xylene (total)	11 U	11 U	11 U	12 U	11 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Volatile Organics

CLIENT SAMPLE ID>	WV4TB11	WV5TB12
LAB SAMPLE ID>	122064	122082
LAB FILE ID>	G6672	G6673
MATRIX>	WATER	WATER
DATE RECD>	04/15/95	04/15/95
DATE EXTD>	NA	NA
DATE ANAL>	04/24/95	04/24/95
DILUTION>	0.6	0.6
CONC UNITS>	UG/L	UG/L
Chloromethane	1 U	1 U
Bromomethane	1 U	1 U
Vinyl Chloride	1 U	1 U
Chloroethane	1 U	1 U
Methylene Chloride	2 J	3
Acetone	3 J	4 J
Carbon Disulfide	1 U	1 U
1,1-Dichloroethene	1 U	1 U
1,1-Dichloroethane	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U
Cis-1,2-Dichloroethene	1 U	1 U
Chloroform	1 U	1 U
1,2-Dichloroethane	1 U	1 U
2-Butanone	5 U	1 J
Bromochloromethane	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U
Carbon Tetrachloride	1 U	1 U
Bromodichloromethane	1 U	1 U
1,2-Dichloropropane	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U
Trichloroethene	1 U	1 U
1,2-Dibromoethane	1 U	1 U
Dibromochloromethane	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U
Benzene	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U
Bromoform	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U
2-Hexanone	5 UJ	5 UJ
Tetrachloroethene	1 U	0.2 J
1,1,2,2-Tetrachloroethane	1 U	1 U
Toluene	1 U	1 U
Chlorobenzene	1 U	1 U
Ethylbenzene	1 U	1 U
Styrene	1 U	1 U
Xylene (total)	1 U	1 U

U-compound was not detected as is below the reported detection limit
B-analyte was found in the associated method blank
J-compound reported below detection limit and is an estimated value

FD1373 Semivolatiles

CLIENT SAMPLE ID>	WV3SB0303	WV4SB0101	WV4SB0201	WV4SB0301	WV561	WV5SB0101
LAB SAMPLE ID>	122060	122062	122063	122061	122074	122075
LAB FILE ID>	F1583	F1603	F1604	F1602	F1618	F1619
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/15/95	04/15/95	04/17/95	04/17/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/27/95	04/27/95
DATE ANAL>	05/02/95	05/03/95	05/03/95	05/03/95	05/04/95	05/04/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	13	13	11	12	12	10
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	380 U	380 U	370 U	370 U	370 U	370 U
bis(2-Chloroethyl)Ether	380 U	380 U	370 U	370 U	370 U	370 U
2-Chlorophenol	380 U	380 U	370 U	370 U	370 U	370 U
1,3-Dichlorobenzene	380 U	380 U	370 U	370 U	370 U	370 U
1,4-Dichlorobenzene	380 U	380 U	370 U	370 U	370 U	370 U
1,2-Dichlorobenzene	380 U	380 U	370 U	370 U	370 U	370 U
2-Methylphenol	380 U	380 U	370 U	370 U	370 U	370 U
2,2'-oxybis(1-Chloropropane	380 U	380 U	370 U	370 U	370 U	370 U
4-Methylphenol	380 U	380 U	370 U	370 U	370 U	370 U
N-Nitroso-Di-n-Propylamine	380 U	380 U	370 U	370 U	370 U	370 U
Hexachloroethane	380 U	380 U	370 U	370 U	370 U	370 U
Nitrobenzene	380 U	380 U	370 U	370 U	370 U	370 U
Isophorone	380 U	380 U	370 U	370 U	370 U	370 U
2-Nitrophenol	380 U	380 U	370 U	370 U	370 U	370 U
2,4-Dimethylphenol	380 U	380 U	370 U	370 U	370 U	370 U
bis(2-Chloroethoxy)Methane	380 U	380 U	370 U	370 U	370 U	370 U
2,4-Dichlorophenol	380 U	380 U	370 U	370 U	370 U	370 U
1,2,4-Trichlorobenzene	380 U	380 U	370 U	370 U	370 U	370 U
Naphthalene	380 U	380 U	370 U	370 U	370 U	370 U
4-Chloroaniline	380 U	380 U	370 U	370 U	370 U	370 U
Hexachlorobutadiene	380 U	380 U	370 U	370 U	370 U	370 U
4-Chloro-3-Methylphenol	380 U	380 U	370 U	370 U	370 U	370 U
2-Methylnaphthalene	380 U	380 U	370 U	370 U	370 U	370 U
Hexachlorocyclopentadiene	380 U	380 U	370 U	370 U	370 U	370 U
2,4,6-Trichlorophenol	380 U	380 U	370 U	370 U	370 U	370 U
2,4,5-Trichlorophenol	920 U	920 U	900 U	910 U	910 U	890 U
2-Chloronaphthalene	380 U	380 U	370 U	370 U	370 U	370 U
2-Nitroaniline	920 U	920 U	900 U	910 U	910 U	890 U
Dimethyl Phthalate	380 U	380 U	370 U	370 U	370 U	370 U
Acenaphthylene	380 U	380 U	370 U	370 U	370 U	370 U
2,6-Dinitrotoluene	380 U	380 U	370 U	370 U	370 U	370 U
3-Nitroaniline	920 U	920 U	900 U	910 U	910 U	890 U
Acenaphthene	380 U	380 U	370 U	370 U	370 U	370 U

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R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Semivolatiles

CLIENT SAMPLE ID>	WV3SB0303	WV4SB0101	WV4SB0201	WV4SB0301	WV561	WV6SB0101
LAB SAMPLE ID>	122060	122062	122063	122061	122074	122075
LAB FILE ID>	F1583	F1603	F1604	F1602	F1618	F1619
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/15/95	04/15/95	04/15/95	04/17/95	04/17/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/27/95	04/27/95
DATE ANAL>	05/02/95	05/03/95	05/03/95	05/03/95	05/04/95	05/04/95
DILUTION>	1.0	1.0	1.0	1.0	1.0	1.0
%MOIST>	13	13	11	12	12	10
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,4-Dinitrophenol	920 U	920 UJ	900 UJ	910 UJ	910 U	890 U
4-Nitrophenol	920 U	920 U	900 U	910 U	910 U	890 U
Dibenzofuran	380 U	380 U	370 U	370 U	370 U	370 U
2,4-Dinitrotoluene	380 U	380 U	370 U	370 U	370 U	370 U
Diethylphthalate	380 U	380 U	370 U	370 U	370 U	370 U
4-Chlorophenyl-phenylether	380 U	380 U	370 U	370 U	370 U	370 U
Fluorene	380 U	380 U	370 U	370 U	370 U	370 U
4-Nitroaniline	920 U	920 U	900 U	910 U	910 U	890 U
4,6-Dinitro-2-Methylphenol	920 U	920 U	900 U	910 U	910 U	890 U
N-Nitrosodiphenylamine (1)	380 U	380 U	370 U	370 U	370 U	370 U
4-Bromophenyl-phenylether	380 U	380 U	370 U	370 U	370 U	370 U
Hexachlorobenzene	380 U	380 U	370 U	370 U	370 U	370 U
Pentachlorophenol	920 U	920 U	900 U	910 U	910 U	890 U
Phenanthrene	380 U	380 U	370 U	370 U	370 U	210 J
Anthracene	380 U	380 U	370 U	370 U	370 U	61 J
Carbazole	380 U	380 U	370 U	370 U	370 U	370 U
Di-n-Butylphthalate	380 U	380 U	370 U	370 U	370 U	370 U
Fluoranthene	380 U	380 U	370 U	370 U	370 U	200 J
Pyrene	380 U	380 U	370 U	370 U	370 U	160 J
Butylbenzylphthalate	380 U	380 U	370 U	370 U	370 U	370 U
3,3'-Dichlorobenzidine	380 U	380 U	370 U	370 U	370 U	370 U
Benzo(a)Anthracene	380 U	380 U	370 U	370 U	370 U	79 J
Chrysene	380 U	380 U	370 U	370 U	370 U	78 J
bis(2-Ethylhexyl)Phthalate	380 U	380 U	370 U	370 U	370 U	370 U
Di-n-Octyl Phthalate	380 U	380 U	370 U	370 U	370 U	370 U
Benzo(b)Fluoranthene	380 U	380 U	370 U	370 U	370 U	54 J
Benzo(k)Fluoranthene	380 U	380 U	370 U	370 U	370 U	53 J
Benzo(a)Pyrene	380 U	380 U	370 U	370 U	370 U	63 J
Indeno(1,2,3-cd)Pyrene	380 U	380 U	370 U	370 U	370 U	370 U
Dibenz(a,h)Anthracene	380 U	380 U	370 U	370 U	370 U	370 U
Benzo(g,h,i)Perylene	380 U	380 U	370 U	370 U	370 U	38 J

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U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Semivolatiles

CLIENT SAMPLE ID>	WV5SB0102	WV5SB0201	WV5SB0202	WV5SB0203	WV5SB0301	WV5SB0302
LAB SAMPLE ID>	122080	122076	122077	122081	122073	122078
LAB FILE ID>	F1626	F1621	F1640	F1627	F1617	J4225
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95
DATE EXTD>	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95
DATE ANAL>	05/04/95	05/04/95	05/05/95	05/04/95	05/04/95	05/09/95
DILUTION>	0.5	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	7	14	12	13	10
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol	370 U	350 U	380 U	370 U	380 U	370 U
bis(2-Chloroethyl)Ether	370 U	350 U	380 U	370 U	380 U	370 U
2-Chlorophenol	370 U	350 U	380 U	370 U	380 U	370 U
1,3-Dichlorobenzene	370 U	350 U	380 U	370 U	380 U	370 U
1,4-Dichlorobenzene	370 U	350 U	380 U	370 U	380 U	370 U
1,2-Dichlorobenzene	370 U	350 U	380 U	370 U	380 U	370 U
2-Methylphenol	370 U	350 U	380 U	370 U	380 U	370 U
2,2'-oxybis(1-Chloropropane	370 U	350 U	380 U	370 U	380 U	370 U
4-Methylphenol	370 U	350 U	380 U	370 U	380 U	370 U
N-Nitroso-Di-n-Propylamine	370 U	350 U	380 U	370 U	380 U	370 U
Hexachloroethane	370 U	350 U	380 U	370 U	380 U	370 U
Nitrobenzene	370 U	350 U	380 U	370 U	380 U	370 U
Isophorone	370 U	350 U	380 U	370 U	380 U	370 U
2-Nitrophenol	370 U	350 U	380 U	370 U	380 U	370 U
2,4-Dimethylphenol	370 U	350 U	380 U	370 U	380 U	370 U
bis(2-Chloroethoxy)Methane	370 U	350 U	380 U	370 U	380 U	370 U
2,4-Dichlorophenol	370 U	350 U	380 U	370 U	380 U	370 U
1,2,4-Trichlorobenzene	370 U	350 U	380 U	370 U	380 U	370 U
Naphthalene	88 J	35 J	380 U	370 U	380 U	370 U
4-Chloroaniline	370 U	350 U	380 U	370 U	380 U	370 U
Hexachlorobutadiene	370 U	350 U	380 U	370 U	380 U	370 U
4-Chloro-3-Methylphenol	370 U	350 U	380 U	370 U	380 U	370 U
2-Methylnaphthalene	48 J	210 J	380 U	370 U	380 U	370 U
Hexachlorocyclopentadiene	370 U	350 U	380 U	370 U	380 U	370 U
2,4,6-Trichlorophenol	370 U	350 U	380 U	370 U	380 U	370 U
2,4,5-Trichlorophenol	910 U	860 U	930 U	910 U	920 U	890 U
2-Chloronaphthalene	370 U	350 U	380 U	370 U	380 U	370 U
2-Nitroaniline	910 U	860 U	930 U	910 U	920 U	890 U
Dimethyl Phthalate	370 U	350 U	380 U	370 U	380 U	370 U
Acenaphthylene	370 U	350 U	380 U	370 U	380 U	370 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Semivolatiles

CLIENT SAMPLE ID>	WV5SB0102	WV5SB0201	WV5SB0202	WV5SB0203	WV5SB0301	WV5SB0302
LAB SAMPLE ID>	122080	122076	122077	122081	122073	122078
LAB FILE ID>	F1626	F1621	F1640	F1627	F1617	J4225
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95
DATE EXTD>	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95	04/27/95
DATE ANAL>	05/04/95	05/04/95	05/05/95	05/04/95	05/04/95	05/09/95
DILUTION>	0.5	1.0	1.0	1.0	1.0	1.0
%MOIST>	12	7	14	12	13	10
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
2,6-Dinitrotoluene	370 U	350 U	380 U	370 U	380 U	370 U
3-Nitroaniline	910 U	860 U	930 U	910 U	920 U	890 U
Acenaphthene	490	350 U	380 U	370 U	380 U	370 U
2,4-Dinitrophenol	910 U	860 U	930 U	910 U	920 U	890 U
4-Nitrophenol	910 U	860 U	930 U	910 U	920 U	890 U
Dibenzofuran	300 J	350 U	380 U	370 U	380 U	370 U
2,4-Dinitrotoluene	370 U	350 U	380 U	370 U	380 U	370 U
Diethylphthalate	370 U	350 U	380 U	370 U	380 U	370 U
4-Chlorophenyl-phenylether	370 U	350 U	380 U	370 U	380 U	370 U
Fluorene	530	350 U	380 U	370 U	380 U	370 U
4-Nitroaniline	910 U	860 U	930 U	910 U	920 U	890 U
4,6-Dinitro-2-Methylphenol	910 U	860 U	930 U	910 U	920 U	890 U
N-Nitrosodiphenylamine (1)	370 U	350 U	380 U	370 U	380 U	370 U
4-Bromophenyl-phenylether	370 U	350 U	380 U	370 U	380 U	370 U
Hexachlorobenzene	370 U	350 U	380 U	370 U	380 U	370 U
Pentachlorophenol	910 U	860 U	930 U	910 U	920 U	890 U
Phenanthrene	3400	120 J	380 U	370 U	380 U	370 U
Anthracene	1300	350 U	380 U	370 U	380 U	370 U
Carbazole	700	350 U	380 U	370 U	380 U	370 U
Di-n-Butylphthalate	370 U	350 U	380 U	370 U	380 U	370 U
Fluoranthene	4000	350 U	380 U	370 U	380 U	370 U
Pyrene	2900	76 J	380 U	370 U	380 U	370 U
Butylbenzylphthalate	370 U	350 U	380 U	370 U	380 U	370 U
3,3'-Dichlorobenzidine	370 U	350 U	380 U	370 U	380 U	370 U
Benzo(a)Anthracene	1600	350 U	380 U	370 U	380 U	370 U
Chrysene	1500	80 J	380 U	370 U	380 U	370 U
bis(2-Ethylhexyl)Phthalate	370 U	350 U	380 U	370 U	380 U	370 U
Di-n-Octyl Phthalate	370 U	350 U	380 U	370 U	380 U	370 U
Benzo(b)Fluoranthene	1300	350 U	380 U	370 U	380 U	370 U
Benzo(k)Fluoranthene	1300	350 U	380 U	370 U	380 U	370 U
Benzo(a)Pyrene	1500	64 J	380 U	370 U	380 U	370 U
Indeno(1,2,3-cd)Pyrene	530	350 U	380 U	370 U	380 U	370 U
Dibenz(a,h)Anthracene	180 J	350 U	380 U	370 U	380 U	370 U
Benzo(g,h,i)Perylene	610	350 U	380 U	370 U	380 U	370 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Semivolatiles

CLIENT SAMPLE ID>	**WV6SB0401**
LAB SAMPLE ID>	122079
LAB FILE ID>	F1625
MATRIX>	SOIL
DATE RECD>	04/17/95
DATE EXTD>	04/27/95
DATE ANAL>	05/04/95
DILUTION>	0.5
%MOIST>	13
CONC UNITS>	UG/KG

Phenol	380 U
bis(2-Chloroethyl)Ether	380 U
2-Chlorophenol	380 U
1,3-Dichlorobenzene	380 U
1,4-Dichlorobenzene	380 U
1,2-Dichlorobenzene	380 U
2-Methylphenol	380 U
2,2'-oxybis(1-Chloropropane	380 U
4-Methylphenol	380 U
N-Nitroso-Di-n-Propylamine	380 U
Hexachloroethane	380 U
Nitrobenzene	380 U
Isophorone	380 U
2-Nitrophenol	380 U
2,4-Dimethylphenol	380 U
bis(2-Chloroethoxy)Methane	380 U
2,4-Dichlorophenol	380 U
1,2,4-Trichlorobenzene	380 U
Naphthalene	380 U
4-Chloroaniline	380 U
Hexachlorobutadiene	380 U
4-Chloro-3-Methylphenol	380 U
2-Methylnaphthalene	380 U
Hexachlorocyclopentadiene	380 U
2,4,6-Trichlorophenol	380 U
2,4,5-Trichlorophenol	920 U
2-Chloronaphthalene	380 U
2-Nitroaniline	920 U
Dimethyl Phthalate	380 U
Acenaphthylene	380 U
2,6-Dinitrotoluene	380 U
3-Nitroaniline	920 U
Acenaphthene	380 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Semivolatiles

CLIENT SAMPLE ID>	**WV5SB0401**
LAB SAMPLE ID>	122079
LAB FILE ID>	F1625
MATRIX>	SOIL
DATE RECD>	04/17/95
DATE EXTD>	04/27/95
DATE ANAL>	05/04/95
DILUTION>	0.5
%MOIST>	13
CONC UNITS>	UG/KG

2,4-Dinitrophenol	920 U
4-Nitrophenol	920 U
Dibenzofuran	380 U
2,4-Dinitrotoluene	380 U
Diethylphthalate	380 U
4-Chlorophenyl-phenylether	380 U
Fluorene	380 U
4-Nitroaniline	920 U
4,6-Dinitro-2-Methylphenol	920 U
N-Nitrosodiphenylamine (1)	380 U
4-Bromophenyl-phenylether	380 U
Hexachlorobenzene	380 U
Pentachlorophenol	920 U
Phenanthrene	380 U
Anthracene	380 U
Carbazole	380 U
Di-n-Butylphthalate	380 U
Fluoranthene	380 U
Pyrene	380 U
Butylbenzylphthalate	380 U
3,3'-Dichlorobenzidine	380 U
Benzo(a)Anthracene	380 U
Chrysene	380 U
bis(2-Ethylhexyl)Phthalate	380 U
Di-n-Octyl Phthalate	380 U
Benzo(b)Fluoranthene	380 U
Benzo(k)Fluoranthene	380 U
Benzo(a)Pyrene	380 U
Indeno(1,2,3-cd)Pyrene	380 U
Dibenz(a,h)Anthracene	380 U
Benzo(g,h,i)Perylene	380 U

J - Concentration reported as an estimated value
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B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 PCB's

CLIENT SAMPLE ID>	WV3SB0303	WV561	WV5SB0101	WV5SB0102	WV5SB0201
LAB SAMPLE ID>	122060	122074	122075	122080	122076
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/15/95	04/17/95	04/17/95	04/17/95	04/17/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/26/95
DATE ANAL>	05/11/95	05/11/95	05/11/95	05/12/95	05/11/95
DILUTION>	1.00	1.00	1.00	1.00	1.00
%MOIST>	14	12	10	12	4
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	38 U	37 U	37 U	37 UJ	34 U
AR-1221	78 U	76 U	74 U	76 UJ	70 U
AR-1232	38 U	37 U	37 U	37 UJ	34 U
AR-1242	38 U	37 U	37 U	37 UJ	34 U
AR-1248	38 U	37 U	37 U	37 UJ	34 U
AR-1254	38 U	37 U	37 U	37 UJ	34 U
AR-1260	38 U	37 U	37 U	37 UJ	34 U

CLIENT SAMPLE ID>	WV5SB0202	WV5SB0203	WV5SB0301	WV5SB0302	WV5SB0401
LAB SAMPLE ID>	122077	122081	122073	122078	122079
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95
DATE EXTD>	04/26/95	04/26/95	04/26/95	04/26/95	04/26/95
DATE ANAL>	05/12/95	05/12/95	05/11/95	05/12/95	05/12/95
DILUTION>	1.00	1.00	1.00	1.00	1.00
%MOIST>	14	12	13	10	13
CONC UNITS>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
AR-1016	38 U	37 U	38 U	37 U	38 U
AR-1221	78 U	76 U	77 U	74 U	77 U
AR-1232	38 U	37 U	38 U	37 U	38 U
AR-1242	38 U	37 U	38 U	37 U	38 U
AR-1248	38 U	37 U	38 U	37 U	38 U
AR-1254	38 U	37 U	38 U	37 U	38 U
AR-1260	38 U	37 U	38 U	37 U	38 U

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

B - Analyte was found in the associated method blank
D - Dilution of sample required for analysis

FD1373 Metals

CLIENT SAMPLE ID>	WV5SB0101	WV5SB0102	WV5SB0201	WV5SB0202	WV5SB0203	WV5SB0301
LAB SAMPLE ID>	0-122075S	0-122080S	0-122076S	0-122077S	0-122081S	0-122073S
MATRIX>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95	04/17/95
PRCNT SOLIDS>	92.3	89.2	93.2	89.9	86.8	87.8
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R	R	R
AS	2.4 J	2.8	3.6	1.9 J	4.8	4.2
BE	0.77	0.83	0.36	0.65	0.98	1.1
CD	0.65 U	0.67 U	0.64 U	0.67 U	1.5	0.89
CR	9.1	17.9	8.7	8.4	21.9	8.9
CU	28.7	30.2	10.2	19.4	21	22.8
PB	10.6	12.2	4.1	9.1	17.4	11.9
HG	0.11 U	0.11 U	0.11 U	0.16	0.12 U	0.12
NI	24.1	30.2	13.5	23	25.4	17
SE	0.43 U	0.45 U	2.1 U	0.44 U	0.46 U	0.46 U
AG	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ
TL	R	R	R	R	R	R
ZN	37.5	58.2	34.3	35.4	63.1	26.8

CLIENT SAMPLE ID>	WV5SB0302	WV3SB0303	WV5SB0401	WV561
LAB SAMPLE ID>	0-122078S	7-122060S	0-122079S	0-122074S
MATRIX>	SOIL	SOIL	SOIL	SOIL
DATE RECD>	04/17/95	04/15/95	04/17/95	04/17/95
PRCNT SOLIDS>	90.1	87.7	84.9	87.0
CONC UNITS>	MG/KG	MG/KG	MG/KG	MG/KG
SB	R	R	R	R
AS	2.3	3.4	5.5	10.6
BE	1.2	1	1.1	1.3
CD	0.67 U	0.68 U	0.71 U	0.69 U
CR	15.7	12.9	11.1	20
CU	25.4	39.9	40	29.6
PB	8.3	15.1	12.6	13.7
HG	0.11 U	0.11 U	0.14	0.11 U
NI	25.2	25.2	23.9	28.7
SE	0.44 U	0.47	0.47 U	0.46 U
AG	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ
TL	R	R	R	R
ZN	32.1	55.4	32	44.9

J - Concentration reported as an estimated value
R - Data are unuseable, resampling and reanalysis required for verification
U - Compound was not detected and is below the reported detection limit

fd1373me.wk1

APPENDIX G

CHAIN-OF-CUSTODY DOCUMENTATION

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY METCALF & EDDY
ADDRESS 1201 PEACHTREE ST. ATLANTA, GA
PHONE (404) 881-8010 FAX (404) 872-7161
PROJECT NAME/LOCATION YEAGER AIRPORT / CHARLESTON, WV
PROJECT NUMBER 016545-0001-007
PROJECT MANAGER MARK SHERRILL

REPORT TO:
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
JOSEPH P. CRITCHFIELD (PRINT NAME) — SIGNATURE
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: TCLP VOC	TCLP SVOC/RCRA METALS	VOCs	SVOCs	PEST/PCBs	22 METALS	COMMENTS
4/27	~~0900~~ 0900	WV3-SC01	SOIL		X					4	2	2					
4/27	0720	WV4-SC01	SOIL		X					4	2	2					
4/28	1350	WV5-SC01	SOIL		X					4	2	2					
4/28	1420	WV2-SC01	SOIL		X					4	2	2					
4/27	0720	TF-427	WATER			2							2				TRIP BLANK
4/28	0700	WVC-TF07	WATER			3		1		4			3	2	2	1	EQUIPMENT RINSE BLANK
4/28	1045	WVC-MW01	WATER			3		2		4			3	2	2	2	MS/MSD FILTERED & UNFILTERED
4/28	1112	WVC-66	WATER			3		2		4			3	2	2	2	"
4/28	1205	WVC-MW01 MS/MSD	WATER			6		4		7			6	4	2	4	"
																	* ONE PEST/PCB BROKEN

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: ___
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
	4/28	1830					

METHOD OF SHIPMENT: FED-EX #5222787452

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stennell	Recorder: (Signature) Mark Stennell	Date: 4/19/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOC (1,2)	VOC CLP	SVOC CLP	PCBs CLP	PP Metals	Total #	COMMENTS
4/19/95	1253	WV5-TB16	WV5-SB0402	X		G	Y	X					2	WATER PCLS: VOC-HCL
	1253	WV5-SB0402	WV5-SB04		X	G	N		X	X	X	X	3	
	1307	WV5-SB0403	WV5-SB04		X	G	N		X	X	X	X	3	
	1549	WV5-SB0501	WV5-SB05		X	G	N		X	X	X	X	3	
	1558	WV5-SB0502	WV5-SB05		X	G	N		X	X	X	X	3	
	1609	WV5-SB0503	WV5-SB05		X	G	N		X	X	X	X	3	
↓	—	TEMP	BLANK	X									1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stennell	4/19/95	1800					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: FED EX 5222787076

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

M&E Metcalf & Eddy

Job/Project Name: WVANG-YEAGER | Job/Project Location: CHARLESTON, WV | Job/Project Number: 016545-4101-002

Samplers: (Signatures) Daniel Howard | Recorder: (Signature) Daniel Howard | Date: 4/18/95

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED VOC (10/92)	VOC CLP	SVOC CLP	PCBs CLP	PP metals	Total #	COMMENTS
4/18/95	0735	WV2-EB06	WV2	X		G	Y	X		X	X	X	8	Water Pres.
	0740	WV2-TB15	WV2	X		G	Y	X					2	VOC-HCl,
	0850	WV2-SB0201	WV2		X				X	X	X	X	3	Metals-HNO_3
	0857	WV2-SB0202	WV2		X				X	X	X	X	3	
	0920	WV2-SB0203	WV2		X				X	X	X	X	3	
↓		TEMP	Blank	X									1	
														All samples are Cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/18/95	1500					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed. Exp. 5222787463

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard	Recorder: (Signature) Daniel Howard	Date: 4/17/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

	SAMPLING				MATRIX							ANALYSIS REQUESTED								
	Date	Time	SAMPLE NUMBER	SAMPLE LOCATION	Water	Soil				COMPOSITE/GRAB	PRESERVATIVE (Y/N)	VOC (10/92)	VOC CLP	SVOC CLP	PCB's CLP	PP metals			Total #	COMMENTS
	4/17/95	1100	WV2-TB14	WV2	X					G	Y	X							2	Water Pres.
**		1120	WV2-SB0301	WV2		X				G	N		X	X	X	X			3	VOC-HCl
		1218	WV2-SB0302	WV2		X				G	N		X	X	X	X			3	
		1315	WV2-SB0303	WV2		X				G	N		X	X	X	X			3	**Use as
		1130	WV2-60	WV2		X				G	N		X	X	X	X			3	MS/MSD
		1445	WV2-SB0101	WV2		X				G	N		X	X	X	X			3	also.
		1500	WV2-SB0102	WV2		X				G	N		X	X	X	X			3	
		1545	WV2-SB0103	WV2		X				G	N		X	X	X	X			3	
	↓		TEMP	Blank	X														1	
																				All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/17/95	1830					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 522278 7474

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard	Recorder: (Signature) Daniel Howard	Date: 4/17/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOC (10/92)	VOC CLP	SVOC CLP	PP metals	Total # Bottles	COMMENTS
4/16/95	1050	WVI-EB07	WVI	X		G	Y	X		X	X	6	Pres water!
	1100	WVI-TB13	WVI	X		G	Y	X				2	VOC-HCl
	1140	WVI-HA1101	WVI	~~X~~	X	G	N		X	X	X	3	Metals-HNO_3
	1210	WVI-HA1102	WVI		X	G	N		X	X	X	3	
	1310	WVI-HA1201	WVI		X	G	N		X	X	X	3	
	1330	WVI-62	WVI		X	G	N		X	X	X	3	
		TEMP	Blank	X								1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/17/95	1830					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 522278 7485

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard	Recorder: (Signature) Daniel Howard	Date: 4/15/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

	SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX					COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED									COMMENTS
	Date	Time			Water	Soil						VOC (10/92)	VOC CLP	SVOC CLP	PCBs CLP	PP metals				Total #	
	4/15/95	0800	WV5-TB012	WV5	X					G	Y	X								2	Pres water
		0810	WV5-SB0301	WV5	X	X				G	N		X	X	X	X				3	VOC-HCl
		0815	WV5-61	WV5		X				G	N		X	X	X	X				3	
*		0830	WV5-SB0302	WV5		X				G	N		X	X	X	X				3	VOC 24hr
*		1025	WV5-SB0401	WV5		X				G	N		X	X	X	X				3	turnaround
		1225	WV5-SB0101	WV5		X				G	N		X	X	X	X				3	
*		1235	WV5-SB0102	WV5		X				G	N		X	X	X	X				3	
		1128	WV5-SB0201	WV5		X				G	N		X	X	X	X				3	Use as MS/MSD
		1146	WV5-SB0202	WV5		X				G	N		X	X	X	X				3	
*		1250	WV5-SB0203	WV5		X				G	N		X	X	X	X				3	
																					All samples are cooled

Relinquished By: (Signature) Daniel Howard	Date: 4/15/95 Time: 1430	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments:	
Method of Shipment: Fed Exp# 5222787496					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel L Howard	Recorder: (Signature) Daniel L Howard	Date: 4/14/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

	SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX					COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED								COMMENTS
	Date	Time			Water	Soil						VOC (10/92)	VOC CLP	SVOC CLP	PCB's CLP	PP Metals			Total #	
	4/14/95	0850	WV3-SB0301	WV3		X				G	N		X	X	X	X			3	Pres water;
		0900	WV3-58	WV3		X				G	N		X	X	X	X			3	VOC-HCl, Met.s HNO3
		0925	WV3-SB0302	WV3		X				G	N		X	X	X	X			3	
*		1050	WV3-SB0303	WV3		X				G	N		X	X	X	X			3	*VOC 24hr
		0800	WV4-TB11	WV4	X					G	Y	X							2	turnaround
*		0940	WV4-SB0301	WV4		X				G	N		X	X					2	
		0950	WV4-SB0302	WV4		X				G	N		X	X					2	
		0940	WV4-59	WV4		X				G	N			X					1	
		1040	WV4-SB0303	WV4		X				G	N		X	X					2	
*		1505	WV4-SB0101	WV4		X				G	N		X	X					2	All samples
		1545	WV4-SB0102	WV4		X				G	N			X					1	are cooled
*		1700	WV4-SB0201	WV4		X				G	N		X	X					2	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/14/95	1910					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 522278751 1

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

2 of 2

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard	Recorder: (Signature) Daniel Howard	Date: 4/14/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX					COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED								COMMENTS
Date	Time			Water	Soil						VOC(10/92)	VOC CLP	SVOC CLP					Total #	
4/14/95	1720	WV4-SB0202	WV4		X				G	N		X	X					2	Pres water.
	1730	WV4-SB0203	WV4		X				G	N		X	X					2	VOC-HCl
	1325	WVB-EB05	WVB	X					G	Y	X							3	
		TEMP	Blank	X														1	
																			All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/14/95	1710					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Ex# 522278751 1

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures)	Recorder: (Signature) David Howard	Date: 4/14/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED 5 VOC CLP	PCBs CLP	PP metals	Total #	COMMENTS
4/14/95	1325	WVB-EB05	WVB	X		G	Y	X	X	X	5	Pres:
↓		TEMP	Blank	X							1	Metals - HNO_3

Relinquished By: (Signature) David Howard	Date: 4/14/95 Time: 1910	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments:	
Method of Shipment: Fed Exp # 5222787500					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel L Howard	Recorder: (Signature) Daniel L Howard	Date: 4/13/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOC (10/92)	VOC CLP	SVOC CLP	PCBs CLP	PP metals	Total #	COMMENTS
4/13/95	0800	WVB-TB10	WVB	X		G	Y	X					2	Pres water:
	0845	WV3-SB0103	WV3		X	G	N		X	X	X	X	3	VOC - HCl
	1455	WV3-SB0201	WV3		X	G	N		X	X	X	X	3	
*	1517	WV3-SB0202	WV3		X	G	N		X	X	X	X	2	
	1720	WV3-SB0203	WV3		X	G	N		X	X	X	X	3	* Sample
	1520	WVB-57	WVB		X	G	N		X	X	X	X	3	WV3-SB0202
	1510	WVB-SB0301	WVB		X	G	N		X	X	X	X	3	24hr turnaround
	0900	WVB-SB0201	WVB		X	G	N		X	X	X	X	3	For VOC
		TEMP	Blank	X									1	
														All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/13/95	1830					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 522278752 2

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name:	Job/Project Location:	Job/Project Number:
WVANG-YEAGER	CHARLESTON, WV	016545-4101-002

Samplers: (Signatures) Daniel Howard, [signature] Recorder: (Signature) Daniel Howard Date: 4/12/95

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOC (10/92)	VOC CLP	SVOC CLP	PCB, CLP	PP Metals	Total #	COMMENTS
4/12/95	0900	TB-09	WV3	X		G	Y	X					2	Pres:
	1015	WVB-SB0101	WVB		X	G	[signature]		X	X	X	X	3	Water VOC - HCl
	0950	WV3-SB0101 MS/MSD	WV3		X	G	[signature]		X	X	X	X	3	Water Metals - HNO_3
*	1120	WV3-SB0102	WV3		X	G	N		X	X	X	X	3	
↓	1635	WV2-SW06	WV2	X	DW	G	Y	X		X	X	X	8	* Sample
		TEMP	Blank	X									1	WV3-SB0102 24 hr turn-around for VOC
														All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/12/95	1845					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 5222787533

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard	Recorder: (Signature) Daniel Howard	Date: 4/11/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOC CLP	PCBs CLP	PP Metals	Total #	COMMENTS
4/11/95	1547	WV1-SW0102 MS/MSD	WV1	X		G	Y	X	X	X	10	Pres:
↓	—	TEMPERATURE BLANK									1	Metals: HNO_3
												All Samples are cooled

Relinquished By: (Signature) Daniel Howard	Date: 4/11/95	Time: 1815	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	
Method of Shipment: Fed Exp # 5222787544							

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signature) Daniel Howard, [illegible]	Recorder: (Signature) Daniel Howard	Date: 4/11/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOC CLP	PCBs CLP	PP Metals	Total #	COMMENTS
4/11/95	1200	WVØ-TAPØ2	WVØ	X		G	Y	X	X	X	5	Pres:
4/11/95	1547	WV1-SW0102	WV1	X		G	Y	X	X	X	5	Metals - HNO_3
↓	—	TEMPERATURE BLANK									1	
												All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/11/95	1815					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Exp # 5222787566

Distribution: **Original** to Lab, **Copy 1** to Field Files, **Copy 2** to Project Manager

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Daniel Howard,	Recorder: (Signature) Daniel Howard	Date: 4/11/95
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED VOC (8010/8021)	SVOC CLP	PCBs CLP	PP Metals	Total #	COMMENTS
~~4/11/95~~ DH	1200	WV0-TAP02	WV0	X		G	Y	X	~~X~~ DH	~~X~~	~~X~~	3	Preservative
4/11/95	1302	WV2-SW05	WV2	X		G	Y	X	X	X	X	8	VOC-HCl
	1380 DH 10	WV2-65	WV2	X		G	Y	X	X	X	X	8	PP-Metals-HNO_3
	1547	WV1-SW0102	WV1	X		G	Y	X				3	
	1547	WV1-SW0102 MS/MSD	WV1	X		G	Y	X				6	
	1200	WV0-TB08	WV0-TAP02	X		G	Y	X				2	
	—	TEMPERATURE BLANK										1	
													All samples are cooled

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Daniel Howard	4/11/95	1815					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: FedExp # 5222787555

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

CHAIN OF CUSTODY FORM

M&E Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Shemill Dave Lee	Recorder: (Signature) Mark Shemill	Date: 12/20/14
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs	ANALYSIS REQUESTED Metals	ANALYSIS REQUESTED PCBs	ANALYSIS REQUESTED Total #	COMMENTS
12/20/14	0830	WV3-HA0301	WV3-HA03		X	G	N	X	X	X	2	
	0845	WV3-56	—		X	G	N	X	X	X	2	
	0914	WV3-HA0302	WV3-HA03		X	G	N	X	X	X	2	
	1050	WV3-HA0101	WV3-HA01		X	G	N	X	X	X	2	
	1041	WV3-EB05	WV3-HA0101	X		G	N	X		X	4	
↓	—	TEMPERATURE BLANK		X		—	—				1	

Relinquished By: (Signature) Mark Shemill	Date: 12/21/14 Time: 1500	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments:	
Method of Shipment: Fed Ex 377147251					

Distribution: **Original** to Lab, **Copy 1** to Field Files, **Copy 2** to Project Manager

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stumbl Dave Fun	Recorder: (Signature) Mark Stumbl	Date: 12/20/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED VOCs	ANALYSIS REQUESTED Metals	ANALYSIS REQUESTED Total #	COMMENTS
12/20/94	0830	WV3-TB07	WV3-HA0301	X		G	*	X		2	
	0830	WV3-HA0301	WV3-HA03		X	G	N	X		1	
	0845	WV3-56	—		X	G	N	X		1	
	0914	WV3-HA0302	WV3-HA03		X	G	N	X		1	
	1050	WV3-HA0101	WV3-HA01		X	G	N	X		1	
	1041	WV3-EB05	WV3-HA0101	X		G	*	X	X	4	
↓	—	TEMPERATURE BLANK		X		—	—			1	

Relinquished By: (Signature) Mark Stumbl	Date: 12/20/94 Time: 1500	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments: * VOCs - HCL Metals - HNO_3	
Method of Shipment: Fed EX 337147181					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name:	Job/Project Location:	Job/Project Number:
WVANG-YEAGER	CHARLESTON, WV	016545-4101-002

Samplers: (Signatures) Mark Stenull Dan Lee — Recorder: (Signature) Mark Stenull — Date: 12/19/94

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs	ANALYSIS REQUESTED PCBs	ANALYSIS REQUESTED Metals	Total #	COMMENTS
12/19/94	0852	WV2-HA0501	WV2-HA05		X	G	N	X	X	X	2	
12/19/94	0922	WV2-HA0502	WV2-HA05		X	G	N	X	X	X	2	
12/18/94	1518	WV2-HA0401	WV2-HA04		X	G	N	X	X	X	2	
12/18/94	1302	WV2-HA0201	WV2-HA02		X	G	N	X	X	X	2	
12/18/94	1507	WV2-HA0301	WV2-HA03		X	G	N	X	X	X	2	
12/19/94	1550	WV3-HA0202	WV3-HA02		X	G	N	X	X	X	2	
12/19/94	1220	WV2-HA0701	WV2-HA07		X	G	N	X	X	X	2	
12/19/94	1507	WV2-HA0201 MS	WV3-HA02		X	G	N	X	X	X	2	
12/18/94	1302	WV2-HA0201 MSD	MS/MSD WV2-HA02		X	G	N	X	X	X	2	MS/MSD
12/19/94	1302	WV2-HA0801	WV2-HA08		X	G	N	X	X	X	2	
12/19/94	1103	WV2-HA0602	WV2-HA06		X	G	N	X	X	X	2	
12/19/94	—	TEMPERATURE	BLANK	X		—	—				1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stenull	12/19/94	1815					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Ex 337147192

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Schmidt, Dave Lee	Recorder: (Signature) Mark Schmidt	Date: 12/19/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX		COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED		COMMENTS
Date	Time			Water	Soil			VOCs	Total #	
12/19/94	0922	WV2-HA0502	WV2-HA05		X	G	N	X	1	
12/19/94	1040	WV2-55	WV2-HA0601		X	G	N	X	1	
12/18/94	1017	WV2-54	WV2-HA0101		X	G	N	X	1	
12/19/94	0852	WV2-HA0504	WV2-HA05		X	G	N	X	1	
12/18/94	1548	WV2-HA0401	WV2-HA04		X	G	N	X	1	
12/19/94	1035	WV2-HA0601	WV2-HA06		X	G	N	X	1	
12/18/94	1507	WV2-HA0301	WV2-HA03		X	G	N	X	1	
12/19/94	1103	WV2-HA0602	WV2-HA06		X	G	N	X	1	
12/18/94	1342	WV2-HA0202	WV2-HA02		X	G	N	X	1	
12/19/94	1550	WV3-HA0202	WV3-HA02		X	G	N	X	1	
12/19/94	1507	WV3-HA0201	WV3-HA02		X	G	N	X	1	
12/19/94	1220	WV2-HA0701	WV2-HA07		X	G	N	X	1	

Relinquished By: (Signature) Mark Schmidt	Date: 12/19/94 Time: 1815	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments:	
Method of Shipment: Fed Ex 3371447203					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name:	Job/Project Location:	Job/Project Number:
WVANG-YEAGER	CHARLESTON, WV	016545-4101-002

Samplers: (Signatures) Mark Shenell Dave Lee — Recorder: (Signature) Mark Shenell — Date: 12/19/94

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX		COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED		COMMENTS
Date	Time			Water	Soil			VOCs	Total #	
12/18/94	1302	WV2-HA0201	WV2-HA02		X	G	N	X	1	USE FOR MS/MSD
12/19/94	1302	WV2-HA0801	WV2-HA08		X	G	N	X	1	
12/18/94	1119	WV2-HA0102	WV2-HA01		X	G	N	X	1	
12/18/94	1005	WV2-HA0101	WV2-HA01		X	G	N	X	1	
12/18/94	1005	WV2-TB06	WV2-HA0101	X		—	*	X	2	
12/18/94	1119	WV2-EB04	WV2-HA0102	X		G	*	X	3	
—	—	TEMPERATURE BLANK		X		—	N	X MS	1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Shenell	12/19/94	1815					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	
						* HCL	

Method of Shipment: Fed Ex 337147203

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name:	Job/Project Location:	Job/Project Number:
WVANG-YEAGER	CHARLESTON, WV	016545-4101-002

Samplers: (Signatures) Mark Stendl Dave Lee — Recorder: (Signature) Mark Stendl — Date: 12/19/94

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING		SAMPLE NUMBER	SAMPLE LOCATION	MATRIX					COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED										COMMENTS
Date	Time			Water	Soil						SVOCs	PCBs	Metals							Total #	
12/18/94	1119	WV2-EB04	WV2-HA0102	X					G	*	X	X	X							5	
12/18/94	1119	WV2-HA0102	WV2-HA01		X				G	N	X	X	X							2	
12/18/94	1342	WV2-HA0202	WV2-HA02		X				G	N	X	X	X							2	
12/19/94	1103	WV2-HA0601	WV2-HA06		X				G	N	X	X	X							2	
12/19/94	1040	WV2-55	WV2-HA0601		X				G	N	X	X	X							2	
12/18/94	1005	WV2-HA0101	WV2-HA01		X				G	N	X	X	X							2	
12/18/94	1017	WV2-54	WV2-HA0101		X				G	N	X	X	X							2	
—	—	TEMPERATURE	BLANK	X					—	—										1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stendl	12/19/94	1815					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	
						* METALS = HNO_3	

Method of Shipment: Fed Ex 3371417306

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Arnold Dan S	Recorder: (Signature) Mark Arnold	Date: 12/17/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED VOCs	ANALYSIS REQUESTED SVOCs	ANALYSIS REQUESTED Metals	Total #	COMMENTS
12/17/94	0913	WVI-HA0801	WVI-HA08		X	G	N	X	X	X	3	
	0935	WVI-HA0802	WVI-HA08		X	G	N	X	X	X	3	
	1247	WVI-HA0901	WVI-HA09		X	G	N	X	X	X	3	
	1249	WVI-TB05	WVI-HA0901	X	X (MS) (dispose of)	G	Y	X			2	Preserved w/ HCl
	1253	WVI-53	WVI-HA0901		X	G	N	X	X	X	3	
	1323	WVI-HA0902	WVI-HA09		X	G	N	X	X	X	3	
		WVI-EB07 (3 MS)	WVI-HA10	X		G	*	X	X	X	6	
	—	TEMPERATURE BLANK									1	
	1435	WVI-HA1001	WVI-HA10		X	G	N	X	X	X	3	
	1538	WVI-HA1202	WVI-HA10		X	G	N	X	X	X	3	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Arnold	12/17/94						
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: * VOCs - HCl Metals - HNO_3	

Method of Shipment: Fed Ex 337147214

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Shuell Dan Lee	Recorder: (Signature) Mark Shuell	Date: 12/16/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs	ANALYSIS REQUESTED Metals	ANALYSIS REQUESTED Total #	COMMENTS
12/16/94	0810	WVI-HA0401	WVI-HAV4		X	G	N	X	X	2	
	0840	WVI-HA0402	WVI-HAV4		X	G	N	X	X	2	
	1203	WVI-HA0501	WVI-HA05		X	G	N	X	X	2	
	1203	WVI-HA0501MS	MSD WVI-HA05		X	G	N	X	X	4	USE FOR MS/MSD
	1231	WVI-HA0502	WVI-HA05		X	G	N	X	X	2	
	1418	WVI-HA0601	WVI-HA06		X	G	N	X	X	2	
	1445	WVI-HA0602	WVI-HA06		X	G	N	X	X	2	
	1633	WVI-HA0701	WVI-HA07		X	G	N	X	X	2	
	1730	WVI-HA0702	WVI-HA07		X	G	N	X	X	2	
↓	—	TEMPERATURE BLANK		X						1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Shuell	12/16/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Ex 3371417225

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Shenuit Dave Sz	Recorder: (Signature) Mark Shenuit	Date: 12/16/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOCs	ANALYSIS REQUESTED: Metals	ANALYSIS REQUESTED: ~~PCBs~~ SVOCs MS	ANALYSIS REQUESTED: Total #	COMMENTS
12/16/94	0810	WVI-HA0401	WVI-HA04		X	G	N	X			1	
	0840	WVI-HA0402	WVI-HA04		X	G	N	X			1	
	0810	WVI-TB04	WVI-HA0401	X		-	Y	X			2	VOCs preserved with HCL
	1203	WVI-HA0501	WVI-HA05		X	G	N	X			1	
	1203	WVI-HA0501 MS/MSD	WVI-HA05		X	G	N	X			X	U.S.L WVI-HA05 01 For MS/MSD
	1231	WVI-HA0502	WVI-HA05		X	G	N	X			1	
	1418	WVI-HA0601	WVI-HA06		X	G	N	X			1	
	1445	WVI-HA0602	WVI-HA06		X	G	N	X			1	
	1400	WVI-EB02	WVI-HA0601	X		—		X	X	X	6	**
	1633	WVI-HA0701	WVI-HA07		X	G	N	X			1	
	1730	WVI-HA0702	WVI-HA07		X	G	N	X			1	
↓	—	TEMPERATURE BLANK		X							1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Shenuit	12/16/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: ** VOCs preserved w/ HCl Metals preserved w/ HNO3	

Method of Shipment: Fed Ex 337147236

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG--YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures)	Recorder: (Signature)	Date: 12/15/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs 8270	ANALYSIS REQUESTED Metals	ANALYSIS REQUESTED Total #	COMMENTS
12/15/94	1100	WV1-11A0101	WV1-HA01		X	G	N	X	X	2	Depth 1.0
	1137	WV1-11A0102	WV1-11A01		X	G	N	X	X	2	2.7
	1248	WV1-HA0201	WV1-11A02		X	G	N	X	X	2	1.0
	1345	WV1-HA0202	WV1-HA02		X	G	N	X	X	2	3.5
	1630	WV1-HA0301	WV1-HA03		X	G	N	X	X	2	1.0
	1700	WV1-11A0302	WV1-11A03		X	G	N	X	X	2	4.0
	1301	WV1-52	WV1-11A0201		X	G	N	X	X	2	1.0
	—	TEMPERATURE BLANK				—				1	—

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
	12/15/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Ex 337147295

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 16545-4101-002
Samplers: (Signatures) Mark Stumbo, Dan Davis	Recorder: (Signature) Mark Stumbo	Date: 12/15/94
Lab (Samples Sent To): JET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOCs, 8240	ANALYSIS REQUESTED: Total #	COMMENTS
12/15/94	1100	WV1-HA0101	WV1-HA01		X	G	N	X	*1	Depth 1.0
	1137	WV1-HA0102	WV1-HA01		X	G	N	X	1	2.9
	1248	WV1-HA0201	WV1-HA02		X	G	N	X	1	1.0
	1345	WV1-HA0202	WV1-HA02		X	G	N	X	1	3.5
	1630	WV1-HA0301	WV1-HA03		X	G	N	X	1	1.0
	1700	WV1-HA0302	WV1-HA03		X	G	N	X	1	4.0
	1301	WV1-52	WV1-HA02 MS 01 02		X	G	N	X	1	1.0
	—	TEMPERATURE BLANK				—	—		1	—
	1100	WV1-TB03	WV1-HA0101	X	X MS	G	N	X	1	—

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stumbo	12/15/94	1700					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: * Stainless Steel liners	

Method of Shipment: Fed Ex 337147 7262

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stemm	Recorder: (Signature) Mark Stemm	Date: 12/14/91
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: SVOCs, 8270	ANALYSIS REQUESTED: PCBs, 8080	ANALYSIS REQUESTED: Metals, Total	ANALYSIS REQUESTED: Total #	COMMENTS
12/14/91	1145	WV2-SW04	WV2-SW04	X		G	*	X	X	X	5	
↓	—	Temperature Blank		—							1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stemm	12/14/91	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: * HNO3 for Metals	

Method of Shipment: Fed Ex 337141724 0

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Shemwell	Recorder: (Signature) Mark Shemwell	Date: 12/14/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: SVOCs 8270	Metals, Total	PCBs, 8080	Total #	COMMENTS
12/14/94	1620	WV2-SW02	WV2-SW02	X		G	N*		X		1	
	1645	WV2-SE02	WV2-SE02		X	G	N	X	X	X	2	
	1620	WV2-SW02MS	WV2-SW02	X		G	*		X	X	3	Use for MS
	1620	WV2-SW02MSD	WV2-SW02	X		G	*		X	X	3	Use for MSD
	1615	WV2-SE02MS/MSD	WV2-SE02			G	N	X	X	X	1	Use for MS/MSD
	1200	WV2-51	WV2-SE04		X	G	N	X	X	X	2	
	1145	WV2-SE04	WV2-SE04		X	G	N	X	X	X	2	
↓	—	TEMPERATURE BLANK									1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Shemwell	12/14/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: * HNO3 FOR Metals	

Method of Shipment: Fed Ex 0176925044

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stanell	Recorder: (Signature) Mark Stanell	Date: 12/14/91
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs, 8270	PCBs, 8080	Metals, TAL	Total #	COMMENTS
12/14/91	0945	WV1-SE01	WV1-SE01		X	G	N	X	X	X	2	
	1410	WV2-SE03	WV2-SE03		X	G	N	X	X	X	2	
	1015	WV1-SE02	WV1-SE02		X	G	N	X	X	X	2	
	1100	WV2-SE01	WV2-SE01		X	G	N	X	X	X	2	
	1045	WV2-SW01	WV2-SW01	X		G	*	X	X	X	5	
↓	—	Temperature Blank										

Relinquished By: (Signature) Mark Stanell	Date: 12/14/91 Time: 1900	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments: * HNO_3 - Metals	
Method of Shipment: Fed Ex 337144715 5					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

M&E Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stemm	Recorder: (Signature) Mark Stemm	Date: 12/14/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs 8240	ANALYSIS REQUESTED MBS 8080	ANALYSIS REQUESTED Total #	COMMENTS
12/14/94	1620	WV2-SW02	WV2-SW02	X		G	N	X	X	4	
	1620	WV2-SW02MS	WV2-SW02	X		G	N	X		2	Use for MS *
	1620	WV2-SW02MSD	WV2-SW02	X		G	N	X		2	Use for MSD *
↓	—	Temperature Blank								1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stemm	12/14/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	

Method of Shipment: Fed Ex 337141/7284

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Stumbo	Recorder: (Signature) Mark Stumbo	Date: 12/14/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX Water	MATRIX Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED SVOCs 8270	ANALYSIS REQUESTED PCBs 8080	ANALYSIS REQUESTED Total #	COMMENTS
12/14/94	1400	WV2-SW03	WV2-SW03	X		G	N	X	X	4	
	1410	WV2-50	WV2-SW03	X		G	N	X	X	4	
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Relinquished By: (Signature) Mark Stumbo	Date: 12/14/94 Time: 1900	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments:	
Method of Shipment: Fed Ex 017697 5033					

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

CHAIN OF CUSTODY FORM

1 of 2

Metcalf & Eddy

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Schmidt	Recorder: (Signature) Mark Schmidt	Date: 12/14/94
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOCs 8240	SVOCs 8270	Metals, Total	Total #	COMMENTS
12/14/94	0910	WV1-TB02	WV1-SW01	X		—	Y	X			2	(6) MS
	0910	WV1-SW01	WV1-SW01	X		G	~~Y~~	X	X	X	~~3~~	Not preserved (VOCs) **
	0945	WV1-SE01	WV1-SE01		X	G	N	X			1	
	1015	WV1-SE02	WV1-SE02		X	G	N	X			1	
	1100	WV2-SE01	WV2-SE01		X	G	N	X			1	
	1045	WV2-SW01	WV2-SW01	X		G	N	X			3	Not preserved * *
	1145	WV2-SW04	WV2-SW04	X		G	Y*	X			3	
	1155	WV2-SE04	WV2-SE04		X	G	N	X			1	
	1200	WV2-51	WV2-SE04		X	G	N	X			1	
	1400	WV2-SW03	WV2-SW03	X		G	Y*	X			3	
	1410	WV2-50	WV2-SW03	X		G	Y*	X		X	~~3~~	(4) MS
	1410	WV2-SE03	WV2-SE03		X	G	N	X			1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Schmidt	12/14/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments:	
						** Analyze w/i 7 DAYS * HCL Metals = HNO3	

Method of Shipment: Fed Ex 3371447273

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

M&E Metcalf & Eddy

CHAIN OF CUSTODY FORM

2 of 2

Job/Project Name:	Job/Project Location:	Job/Project Number:
WVANG-YEAGER	CHARLESTON, WV	016545-4101-002

Samplers: (Signatures) Mark Stemmle — Recorder: (Signature) Mark Stemmle — Date: 12/14/94

Lab (Samples Sent To): NET-CAMBRIDGE DIVISION

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOCs & 2YO	ANALYSIS REQUESTED: Total #	COMMENTS
12/14/94	1620	WV2-SW02	WV2-SW02	X		G	Y*		3	
	1620	WV2-SW02MS	WV2-SW02	X		G	Y*		3	Use For MS
	1620	WV2-SW02MSD	WV2-SW02	X		G	Y*		3	Use For MSD
	1645	WV2-SE02	WV2-SE02		X	G	N		1	
	1645	WV2-SE02MS/MSD	WV2-SE02		X	G	N		1	Use for MS/MSD
		TEMPERATURE	BLANK						1	

Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Mark Stemmle	12/14/94	1900					
Relinquished By: (Signature)	Date:	Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
Relinquished By: (Signature)	Date:	Time:	Received for Lab By: (Signature)	Date:	Time:	Comments: * HCL	

Method of Shipment: FedEx 3371447273

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

Metcalf & Eddy

CHAIN OF CUSTODY FORM

Job/Project Name: WVANG-YEAGER	Job/Project Location: CHARLESTON, WV	Job/Project Number: 016545-4101-002
Samplers: (Signatures) Mark Shemel Dave Davis	Recorder: (Signature) Mark Shemel	Date: 12/13/14
Lab (Samples Sent To): NET-CAMBRIDGE DIVISION		

SAMPLING Date	SAMPLING Time	SAMPLE NUMBER	SAMPLE LOCATION	MATRIX: Water	MATRIX: Soil	COMPOSITE/GRAB	PRESERVATIVE (Y/N)	ANALYSIS REQUESTED: VOCs 8240	SVOCs 8270	PCBs 8080	Metals Tot	Total #	COMMENTS
													MS
12/13/14	1000	WV0-TB01	WV0	X		-	N*	X				2	~~Not Preserved~~
	1015	WV0-TAP01	WV0	X		G	N*	X	X	X	X	8	
	1115	WV2-EB01	WV2	X		G	N*	X	X	X	X	8	
↓	—	TEMPERATURE BLANK		X		-	N					1	

Relinquished By: (Signature) Mark Shemel	Date: 12/13/14 Time: 1330	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Relinquished By: (Signature)	Relinquished By: (Signature)	Date: Time:	Received By: (Signature)
Relinquished By: (Signature)	Date: Time:	Received for Lab By: (Signature)	Date: Time:	Comments: * VOCs Not preserved Metals preserved with HNO3	

Method of Shipment: FEDEX Priority Overnight 337144779 6

Distribution: **Original** to Lab. **Copy 1** to Field Files, **Copy 2** to Project Manager

Form 274 (Rev. 5/89)

APPENDIX H

FIELD LOGS

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. BKGD-01
SITE LOCATION: BACKGROUND LOCATION #1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 953 FT.	TOTAL DEPTH 18'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1000 4/12/95	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1140 4/12/95	
HOLE SIZE: 8"	WEATHER: RAIN, 65°	GROUND WATER (DEPTH/ELEV.): 8' / 945'	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 5' / 948'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-18"	12"	10-12-37	66%	* BROWN, M. SANDY, SILT WITH CLAY. 2.5 YR 7/4 (SM-ML) INTERLAYERED RED-BROWN AND GRAY LAMINAE		Ø	
	SPT-2	1.5-3.0	12"	6-10-11	66%	- AS ABOVE		Ø	BROWN, SILTY CLAY (FILL)
5	SPT-3	30-4.5	15"	33-41.50	75%	- AS ABOVE, ROCK FRAGMENTS TO 5 MM LAYERING NOTED			GRAY-GREEN, SANDY SHALE
	SPT-4	7-8.5		50/4"		- AT 5', CUTTINGS DRY, WHITE - GRAY-GREEN SANDY SHALE ROCK FRAGMENTS		Ø	AUGER REFUSAL AT 18'
10									
15									
20									
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

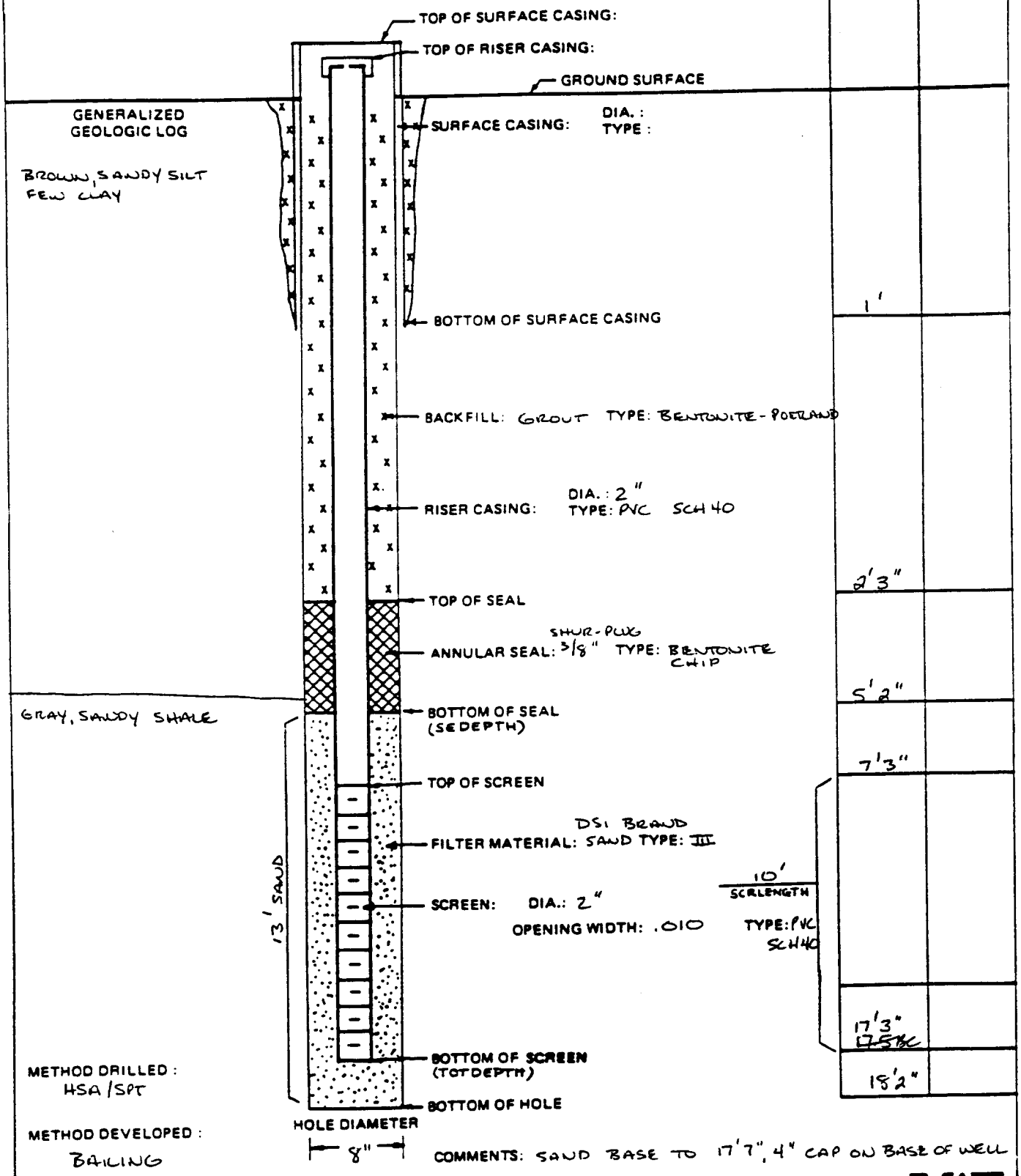
NOTES: * ANALYTICAL SAMPLE
CONVERTED TO WELL

BORING NO.: BKGD-01

GROUND WATER INSTALLATION

PROJECT: WVANG - YEAGER	JOB NO. 016545-4101-002	WELL NO. WVB-MW01	
DRILLING CONTRACTOR: MARSHALL MILLER	COORDINATES:		
BEGUN: 4/12 1000	SUPERVISOR: J. CRITCHFIELD	WELL SITE: BACKGROUND AT FIRE DEPT.	WATER LEVEL. DEPTH/ELEV 7.5' BGS
FINISHED: 4/12 1800	DRILLER: B. BALL		

REFERENCE POINT & ELEVATION: EAST SIDE TOP OF CASING



METHOD DRILLED: HSA/SPT

METHOD DEVELOPED: BAILING

TIME DEVELOPED: 4/26 1030-1630

COMMENTS: SAND BASE TO 17'7", 4" CAP ON BASE OF WELL

Metcalf & Eddy

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. BKGD-02
SITE LOCATION: BACKGROUND LOCATION #2	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 941'	TOTAL DEPTH 18'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 0830 4/13	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1200 4/13	
HOLE SIZE: 8"	WEATHER: P. CLOUDY, HIGH 62°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 6'/935'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-1.5	12"	12-20-20	66%	BROWN, F. SANDY SILT SOME ROCK FRAGMENTS AND ROOTS 10YR 7/2 (ML-SM)		Ø	
	SPT-2	1.5-3.0	10"	12-3-8	50%	- AS ABOVE, LAYERING NOTED IN BLOCKS			BROWN, SANDY SILT (FILL)
	SPT-3	3.0-4.5	10"	19-22-40	50%	- BROWN, DRY TO MOIST, FINE SANDY SILT. SOME CLAY AND ROCK FRAGMENTS 7.5 YR 5/4		.3	
5	SPT-4	4.5-6.0	6"	31-50/4"	30%	- GRAY, SANDY SHALE WITH BEDDING 7.5 YR 4/2		Ø	GRAY, SANDY SHALE
10								Ø	
15									
20									AUGER REFUSAL AT 18'
25									

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE
R-ROCK CORE, O-OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: BKGD-02

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. BKGD-03
SITE LOCATION: BACKGROUND LOCATION #3	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 935'	TOTAL DEPTH 30'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1500 4/13	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1700 4/13	
HOLE SIZE: 8"	WEATHER: CLOUDY, 49°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 3'/932'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	.5-2.0'	12"	13-23-39	66%	BROWN, SANDY SILT, ROCK FRAGMENTS TO 2 MM (10YR 6/3) LAMINAE OF RED AND GRAY.			GRAVEL
	SPT-2	2.0-3.5'	6"	19-50/3	33%	- INCREASE IN ROCK FRAGMENTS - BROWN, SANDY SILT. SOME ROCK FRAGMENTS. DENSE (10YR 6/4) - GRAY, SANDY SHALE BEDDED		1.0 ø	BROWN, SANDY SILT (FILL) GRAY, SANDY SHALE BORING TERMINATED AT 30'

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: ø ANALYTICAL SAMPLE

BORING NO.: BKGD-03

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV2-SB01
SITE LOCATION: SITE #2, BORING #1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 847	TOTAL DEPTH 16'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: M. SHERRILL	BEGUN: 4/17/95	
DRILL RIG: ACKER CENTURY	DRILLER: R. MATHERLY	FINISHED: 4/17/95	
HOLE SIZE: 8"	WEATHER: CLOUDY, 65°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-1.5	9"	2-3-4	50%	* BROWN, SILTY CLAY, LITTLE SHALE (7.5 YR 5/3) MOIST PLASTIC		Ø	GRASS AND TOPSOIL
		1.5-3.0	16"						BROWN, SILTY CLAY (FILL)
						- LT. YELLOW-BROWN SILT, LITTLE CLAY (10YR 6/4) SLIGHT MOIST AND PLASTIC		Ø	YELLOW-BROWN, SILT (FILL)
5	SPT-2	4.5-6.0	6"	2-3-2	33%	*			
		6.0-7.5	18"			- YELLOW-BROWN SILTY CLAY AND GRAVEL/CINDERS		Ø	YELLOW-BROWN CLAY W/GRAVEL
						- BROWN, SILTY CLAY, PLASTIC MOIST, ALTERNATING WITH SANDSTONE (ALLUVIAL)			YELLOW-BROWN, SILTY CLAY
10	SPT-3	9.5-11.0	18"	1-3-3	100%	* - PALE YELLOW, SILTY CLAY (2.5 Y 7/4)		Ø	BROWN, SILTY CLAY AND SANDSTONE FRAGMENTS (ALLUVIUM)
									BROWN-YELLOW SILT AND CLAY (RESIDUAL)
15	SPT-4	14.5-16.0	18"	6-13-18	100%	- BROWN-YELLOW CLAYEY SILT (10YR 6/8) DRY, NON PLASTIC		Ø	
									BORING TERMINATED AT 16'
20									
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLE

BORING NO.: WV2-SB01

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV2-SB02
SITE LOCATION: SITE #2, BORING #2	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 857	TOTAL DEPTH 24'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 0845 4/18	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1025 4/18	
HOLE SIZE: 8"	WEATHER: CLOUDY, RAIN, HIGH 75°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 12' / 845'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6" interval) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0 - 1.5	17"	10-8-7	95%	* BROWN, MOIST, SANDY SILT (2.5 Y 5/3), LITTLE CLAY TRACE ROCK FRAGMENTS AND ROOTS		Ø	BROWN, SANDY SILT (FILL)
		3.5 -							
5	SPT-2	5'	9"	3-6-9	50%	* - BROWN, VERY MOIST, SANDY SILT. SOME CLAY TRACE COARSE SAND MOTTLED, RED-BROWN (10R4/6) BLOCKS		Ø	BROWN, SANDY SILT (RESIDUAL)
		8.5 -							
10	SPT-3	10'	18"	16-16-28	100%	* AS ABOVE - INCREASE IN MOTTLING MnO COATED SURFACES BEDDING PRESENT		Ø	
		13.5 -							BROWN, WEATHERED SANDY SHALE (ROCK)
15	SPT-4	15'	Ø	50/1"		- AS ABOVE, LESS CLAY AND MOISTURE V. DENSE - GRAY, WELL-SORTED, DENSE, FINE SANDSTONE			GRAY, WELL-SORTED SANDSTONE
20									AUGER REFUSAL AT 24'
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV2-SB02

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV2-SB03
SITE LOCATION: SITE #2, BORING #3	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 861'	TOTAL DEPTH 20'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1110 4/17	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1345 4/17	
HOLE SIZE: 8"	WEATHER: CLOUDY, RAIN, HIGH 70°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 20'/841'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-	18"	5-6-6	100%	* BROWN, FINE SANDY SILT (10YR 5/4) SOME ROCK FRAGMENTS AND TRACE CLAY		Ø	BROWN, SANDY SILT (FILL)
		1.5'						1.4	
	SPT-2	1.5-	12"	7-4-3	66%			.4	
		3.0							
5	SPT-3	3-4.5'	5"	7-4-50/3	30%	- ASPHALT/CONCRETE		Ø	ASPHALT/CONCRETE DEBRIS
	SPT-4	5-	Ø	50/1					
		6.5'							
	SPT-5	6.5-8	9"	2-2-2	50%	* - BROWN, MOIST, SANDY SILT LITTLE CLAY, FEW COARSE SAND AND PEBBLES		Ø	BROWN, SANDY SILT, LITTLE CLAY AND SAND (FILL)
	SPT-6	8-							
		9.5'	6"	1-1-2	30%	- INCREASE IN CLAY, ROCK FRAGMENTS			
10	SPT-7	9.5-11'	Ø	2-2-2	0%				
	SPT-8	11-	14"	3-4-5	75%				
		12.5'							
	SPT-9	12.5-14'	14"	10-2-3	75%	- GREY, V. MOIST, SANDY CLAY (2.5 Y 4/2) PLASTIC LITTLE WOOD FRAGMENTS AND SUB-ROUNDED PEBBLES			GREY, SANDY CLAY (ALLUVIUM)
15	SPT-10	14-							
		15.5'	18"	3-4-7	100%			Ø	
	SPT-11	15.5-17'	18"	3-4-4	100%				
	SPT-12	17-							
		19.5'	18"	7-21-50/5	100%	* - ROOTS			
20	SPT-13	19.5-	Ø	50/1		- GRAY, FELDSPATHIC, WELL-SORTED, MICACEOUS, FINE SANDSTONE		Ø	GREY, FINE SANDSTONE
		21'							BORING TERMINATED AT 20'
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV2-SB03

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV2-MW01
SITE LOCATION: SITE #2, WELL #1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 830'	TOTAL DEPTH 8.5'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1400 4/18	
DRILL RIG: ACKER SOIL MAX	DRILLER: B. BALL	FINISHED: 1500 4/18	
HOLE SIZE: 8"	WEATHER: P. CLOUDY, HIGH 76°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 3.5'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0- 1.5'		3-8-7		BROWN, WELL-SORTED, COARSE SAND, SOME SILT TR. GRAVEL AND MICA (10YR 6/6) DRY		∅	SILTY SAND (RESIDUAL)
	SPT-2	1.5-3'		21-50/3"					
5	SPT-3	3-4.5'		50/1"		- LT. BROWN SANDSTONE AS ABOVE. LAYERS OF LT. BROWN (7.5YR 4/6) - V. DENSE		∅	BROWN, WELL-SORTED COARSE SANDSTONE
	SPT-4	4.5- 6.0'		50/1"					AUGER REFUSAL AT 8.5'
10									
15									
20									
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: DRY HOLE

BORING NO.: WV2-MW01

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT : YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV3-SB01
SITE LOCATION: SITE # 3, BORING # 1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 960	TOTAL DEPTH 24'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: M. SHERRILL	BEGUN : 4/12/95	
DRILL RIG: ACKER CENTURY	DRILLER: R. MATHERLY	FINISHED: 4/13/95	
HOLE SIZE: 8"	WEATHER: CLOUDY, RAIN, HIGH 55°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-1.5'	10"	9-15-17	55%	BROWN, FINE SANDY SILT (7.5YR 4/2), SHALE FRAGS INCREASING CLAY WITH DEPTH, HARD		Ø	ROOTS AND TOPSOIL
	SPT-2	1.5 - 3.0'	10"	6-7-6	55%			Ø	BROWN, F. SANDY SILT (FILL)
	SPT-3	3-4.5'	8"	6-11-14	45%	- YELLOW-BROWN, FINE SANDY SILT (2.5YR 6/3) WITH SHALE FRAGMENTS		Ø	YELLOW-BROWN, FINE SANDY SILT (FILL)
5		4.5- 6.0'	8"	6-8-10	45%			Ø	
	SPT-4								
	SPT-5	6 - 7.5'	8"	9-12-10	45%	- AS ABOVE		Ø	
	SPT-6	7.5-9'	8"	5-8-9	45%			2.1	
10		9 - 10.5'	8"	8-10-9	45%	- BROWN, CLAYEY SILT AND SHALE FRAGMENTS (10YR 5/3) STIFF, MOIST, LOW PLASTIC		.3	BROWN, CLAYEY SILT (FILL)
	SPT-7								
	SPT-8	10.5-13	8"	7-4-8	45%			Ø	
	SPT-9	12 - 13.5'	8"	5-12-16	45%			Ø	
15	SPT-10	13.5-15	6"	4-3-6	30%	- LT. YELLOW-BROWN, FINE SANDY SILT (2.5YR 6/3) WITH SHALE FRAGS STIFF, DRY, NON PLASTIC		Ø	LT. YELLOW-BROWN, FINE SANDY SILT (FILL)
	SPT-11	15 - 16.5'	6"	3-12-11	30%			Ø	
	SPT-12	16.5-18	6"	2-9-12	30%	- AS ABOVE		Ø	
	SPT-13	18 - 19.5'	6"	8-9-9	30%				
20	SPT-14	19.5-21'	6"	5-3-3	30%	- AS ABOVE, WET		Ø	
	SPT-15	21 - 22.5'	6"	2-3-10	30%	- AS ABOVE, WET		Ø	
25									BORING TERMINATED AT 24'

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: 4 ANALYTICAL SAMPLES

BORING NO.: WV3-SB01

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV3-SB02
SITE LOCATION: SITE #3, BORING #2	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 960	TOTAL DEPTH 31'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: M. SHERRILL	BEGUN: 4/13/95	
DRILL RIG: ACKER SOIL CENTURY	DRILLER: R. MATHERLY	FINISHED: 4/13/95	
HOLE SIZE: 8"	WEATHER: CLOUDY, WINDY 50°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-				* GRAY, FINE SANDY, SILT WITH ROAD GRAVEL (5Y 6/1) DRY, NON PLASTIC (ML)			ROOTS AND TOPSOIL
		1.5	12"	8-12-12	60%			3.3	GRAY, SANDY SILT (FILL)
5	SPT-2	4.5-	8"	20-18-9	45%	LT. BROWN, FINE SANDY SILT (10YR 6/3) WITH SHALE FRAGMENTS. STIFF, DRY NON-PLASTIC (ML)		5.8	YELLOW-BROWN, SANDY SILT AND SHALE (FILL)
		6.0							
10	SPT-3	9.5-							
		11.0'	10"	2-4-3	55%	YELLOW-BROWN, CLAYEY SILT (10YR 6/4) WITH SHALE MOIST, SLIGHT PLASTIC FIRM (ML)		⌀	
15	SPT-4	14.5-							
		16.0'	10"	3-9-6	55%	YELLOW-BROWN, FINE SANDY SILT (10YR 5/4) AND SHALE. STIFF, DRY NON-PLASTIC (ML)		⌀	
						- LAYERS OF SHALE			
20	SPT-5	19.5-	8"						
		21.0'		3-1-10	45%			⌀	
						SAME AS ABOVE			
25	SPT-6	24.5-						⌀	
		26.0	14"	5-7-8	70%				
	SPT-7	29.5-31	12"	8-21-7	60%			⌀	BORING TERMINATED AT 31 FT.

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLE

BORING NO.: WV3-SB02

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV3-SB03
SITE LOCATION: SITE #3, BORING #3	JOB NO. 016545	LOCATION: CHARLESTON, WV	GROUND ELEV. 959 / TOTAL DEPTH 22.5'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: M. SHERRILL		BEGUN: 4/14/95
DRILL RIG: ACKER CENTURY	DRILLER: R. MATHERLY		FINISHED: 4/14/95
HOLE SIZE: 8"	WEATHER: SUNNY, 45°		GROUND WATER (DEPTH/ELEV.): NA /
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA		TOP OF ROCK (DEPTH/ELEV.): NA

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6" Interval) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0 - 1.5'	10"	6-11-12	55%	LT. BROWN, FINE SANDY SILT (10YR 6/3) WITH SHALE FRAGMENTS. DRY, NON-PLASTIC (ML) VERY STIFF		Ø	ROOTS AND TOPSOIL YELLOW-BROWN, FINE SANDY SILT (FILL)
5	SPT-2	4.5 - 6.0	12"	5-9-9	60%	YELLOW-BROWN, FINE SANDY SILT (10YR 6/6) WITH SHALE FRAGMENTS STIFF, MOIST, NON-PLASTIC (ML)		Ø	
10	SPT-3	9.5 - 11	18"	2-8-4	100%	YELLOW-BROWN, CLAYEY SILT (10YR 6/4) WITH THIN LAYERS OF WEATHERED SHALE. STIFF, MOIST SLIGHT PLASTIC (ML)		Ø	
15	SPT-4	14.5 - 16'	18"	4-5-5	100%			Ø	
20	SPT-5	19.5 - 21	10"	2-3-6	55%	SAME AS ABOVE WITH ±1.0 FT THICK SOFT ZONES TO B.T. - WET AT TIP OF SPOON		Ø	
	SPT-6	21 - 22.5	12"	1-2-7	66%			Ø	BORING TERMINATED AT 22.5'
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV3-SB03

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV4-SB01
SITE LOCATION: SITE # 4, BORING OFF 1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 928	TOTAL DEPTH 15'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1445 4/14	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1600 4/14	
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 62°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR REC	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-	9"	7-7-9	50%	BROWN, MED. SANDY SILT (10YR 5/4) LITTLE CLAY AND ROCK FRAGMENTS (SM)		1.0	BROWN, SANDY SILT (FILL), SOME GRAVEL
		1.5							
		3.5-							
5	SPT-2	5'	12"	6-5-7	60% *			1.0	
		8.5-							
10	SPT-3	10	6"	23-15-17	33%	- LARGE COBBLES ROCK IN SPOON		.4	
		13.5-							
15	SPT-4	15	6"	10-11-13	33% *	- ROCKS IN FILL		ø	BORING TERMINATED AT 15'
20									
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLE

BORING NO.: WV4-SB01

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV4-SB02
SITE LOCATION: SITE #4, BORING #2	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 928	TOTAL DEPTH 30'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1645 4/14/95	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1900 4/14/95	
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 62°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0 -				BROWN, MED. SANDY SILT. (10 R 5/2) TRACE CLAY AND ROCK FRAGMENTS (ML)		.5	BROWN, SANDY SILT. (FILL)
		1.5	12"	10-16-20	66%				
		3.5 -							
5	SPT-2	5'	13"	4-6-4	70% *			.4	
		8.5 -							
10	SPT-3	10'	14"	4-15-21	75% *	- ± 1.0 FT. SHALE LAYER		Ø	
		13.5 -							
15	SPT-4	15.'	14"	8-11-13	75% *			1	
		18.5 -							
20	SPT-5	20'	12"	10-11-10	60%			Ø	
		23.5 -							
25	SPT-6	25	12"	11-11-12	60%	YELLOW-BROWN, M TO COARSE, WELL-SORTED SANDSTONE COBBLE IN SPOON		Ø	
		28.5 -							
	SPT-7	30'	12"	7-9-10	60%			Ø	BORING TERMINATED AT 30'

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV4-SB02

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV4-SB03
SITE LOCATION: SITE #4, BORING #3	JOB NO. 016545		
	LOCATION: CHARLESTON, WV.	GROUND ELEV. 927	TOTAL DEPTH 27'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 0855 4/14/95	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1220 4/14/95	
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 62°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SPT-1	0-1.5	1"	50	10%				GRAVEL
		1.5-							
	SPT-2	3.0	10"	8-15-14	50%	RED-BROWN, MED. SANDY SILT (2.5 YR 4/3). TRACE CLAY AND ROCK FRAGMENTS		Ø	RED-BROWN, SANDY SILT (FILL)
		3.0-							
5	SPT-3	4.5	10"	7-11-8	50%			17	
	SPT-4	4.5-6	12"	8-5-8	66%			4	
		6-						3	
	SPT-5	7.5	12"	5-5-6	66%	- SMALL, 1" LENSES OF GRAY CLAY, ROCK WOOD DEBRIS			
	SPT-6	7.5-9	12"	7-10-15	66%				
10	SPT-7	9-10.5	12"	7-11-10	66%			1	
		10.5-				- INCREASE IN ROCK FRAGMENTS			
	SPT-8	12.0	12"	7-12-12	66%				
	SPT-9	12-13.5	12"	7-9-30	66%			Ø	
		13.5-				BROWN, MED. SANDY SILT. (7.5 YR 6/3) TRACE CLAY AND ROCK FRAGMENTS DENSE, DRY			BROWN, SANDY SILT (ROCK FILL)
15	SPT-10	15'	12"	13-13-15	66%				
	SPT-11	15-16.5	12"	9-7-8	66%				
	SPT-12	16.5-18	12"	8-9-14	66%				
								Ø	
	SPT-13	18-							
		19.5	12"	10-11-12	66%	- FOLIA OF RED AND GRAY CLAY			
20	SPT-14	19.5-21	12"	12-16-17	66%				
	SPT-15	21-22.5	12"	11-12-11	66%				
	SPT-16	22.5-24	12"	11-12-15	66%				
	SPT-17	24-25.5	12"	10-19-35	66%				
25	SPT-18	25.5-27	12"	10-20-50/3	100%	- AS ABOVE, VERY DENSE			BROWN, SANDY SILT (RESIDUAL)
									AUGER REFUSAL AT 27'

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV4-SB03

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV5-SB01
SITE LOCATION: SITE #5, BORING #1	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 938	TOTAL DEPTH 20'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1200 4/15/95	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1300 4/15/95	
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 62°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 11'/927'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
									3" ASPHALT / 9" GRAVEL
	SPT-1	1.5-				BROWN, MED SANDY SILT (10YR5/2). LITTLE CLAY, ROCK FRAGMENTS MOIST (SM-ML)		Ø	BROWN, SANDY SILT (FILL)
		3.0	18"	5-7-11	100%				
		3.5-							
5	SPT-2	5.0	18"	3-4-5	100%			Ø	
		8.5-							
10	SPT-3	10	6"	8-2-3	33%	- INCREASE IN MOISTURE ROCK FRAGMENTS TO COBBLE WITH DEPTH		1	
								Ø	
									GRAY, FINE SANDSTONE (ROCK)
		13.5-				- GRAY, V. FINE, CALCAREOUS SANDSTONE TR. MICA			
15	SPT-4	15	6"	6-8-50	33%				
20	SPT-5	18.5-20	Ø	12-11-12	0%				
	SPT-6	20-21.5	Ø	50/1"	0%				BORING TERMINATED AT 20'
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV5-SB01

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WVS-SB02
SITE LOCATION: SITE #5, BORING #2	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 938	TOTAL DEPTH 21'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: M. SHERRILL	BEGUN: 1120 4/15/94	
DRILL RIG: ACKER CENTURY	DRILLER: R. MATHERLY	FINISHED: 1320 4/15/94	
HOLE SIZE: 8"	WEATHER: P. CLOUDY, 60°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): NA	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
	SS-1	.5-2'	14"	5-9-12	75%	FINE SANDY SILT (SM) AND SHALE. - GRAY-BROWN, CLAYEY SILT (10YR 5/2). LITTLE FINE SHALE FRAG. MOIST, SLIGHT PLASTIC (ML)		∅	.7" ASPHALT AND GRAVEL BROWN, CLAYEY SILT (FILL)
5	SS-2	4.5-6'	14"	3-6-4	75%	- BROWN, CLAYEY SILT (10YR 5/3) WITH FINE SHALE FRAGMENTS. MOIST, MODERATE PLASTIC (ML)		∅	
10	SS-3	9.5-11	14"	3-8-6	75%	LT. OLIVE-BROWN, SILTY FINE SAND (2.5Y 5/3) AND SANDSTONE FRAGMENTS (SM)		∅	OLIVE-BROWN, SILTY SAND (RESIDUAL)
15	SS-4	14.5-16	14"	7-7-7	75%	- GRAY-GREEN, SILTY FINE SAND (5/GY 6/1) AND SHALE FRAGMENTS (SM)		∅	
20	SS-5	19.5-21	14"		75%	RED-BROWN, FINE SANDY CLAY (5YR 5/4) WITH BLACK FILLING (CL)		∅	BROWN, SANDY CLAY (RESIDUAL) BORING TERMINATED 21 FT.
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WVS-SB02

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

PROJECT : YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV5-SB03
SITE LOCATION: SITE #5, BORING #3	JOB NO. 016545	LOCATION: CHARLESTON, WV	GROUND ELEV. 938 / TOTAL DEPTH 18'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD		BEGUN : 0800 4/15/95
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL		FINISHED: 0945 4/15/95
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 62°		GROUND WATER (DEPTH/ELEV.): NA /
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA		TOP OF ROCK (DEPTH/ELEV.): 6' / 932'

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG	STRATIGRAPHIC DESCRIPTION
									3" ASPHALT AND 9" GRAVEL
	SPT-1	1.5-3.0	17"	4-8-9	90%	BROWN, FINE SANDY SILT (7.5 YR 5/3). LITTLE CLAY AND ROCK FRAGMENTS MOIST. (SM-ML)		Ø	BROWN, SANDY SILT (FILL)
	SPT-2	3-4.5	15"	5-8-9	80%			Ø	
5	SPT-3	4.5-6	18"	15-31-44	100%				
	SPT-4	6-7.5	17"	15-22-22	90%	TAN, MEDIUM SANDY SILT. (2.5 YR 6/6). DRY, DENSE, LAYERED. (SM)		17 14 7	TAN, MED. SANDSTONE (ROCK)
10	SPT-5	7.5-9.0	14"	12-12-13	75%				
	SPT-6	9-10.5	6"	35-50/2	33%	- VERY DENSE			
	SPT-7	10.5-12	Ø	50/2	0%			Ø	
15									
	SPT-8	18.5-20	1"	50/3"	5%				BORING TERMINATED AT 18'
20									
25									

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE
R-ROCK CORE, O-OTHER

NOTES: 4 ANALYTICAL SAMPLES

BORING NO.: WV5-SB03

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WVS-SB04
SITE LOCATION: SITE # 5, BORING # 4	JOB NO. 016545		
	LOCATION: CHARLESTON, WV	GROUND ELEV. 936	TOTAL DEPTH 20'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD	BEGUN: 1210 4/19/95	
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL	FINISHED: 1400 4/19/95	
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 80°	GROUND WATER (DEPTH/ELEV.): NA /	
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA	TOP OF ROCK (DEPTH/ELEV.): 12' / 924'	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
									3" ASPHALT AND 9" GRAVEL
						BROWN, SANDY SILT (10YR 5/3). LITTLE CLAY, TRACE ROCK FRAGMENTS. (SM-ML)		Ø	BROWN, SANDY SILT (FILL)
5	SS-1	4.5-6	8"	2-3-3	45%*				
		8.5-							
10	SS-2	10	18"	1-1-2	100%*	BROWN, WELL-SORTED, SUB-ROUNDED, MEDIUM SAND. (10YR 6/4) TRACE SILT, FEW PEBBLES (SW) MOIST		Ø	BROWN, MED. SAND (FILL)
		13.5-							(ROCK)
15	SS-3	15	Ø	50/1"	0%	NO SAMPLE RECOVERY		Ø	
20									
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WVS-SB04

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT : YEAGER AIRPORT		SHEET 1 OF 1	BORING NO. WV5-SB05
SITE LOCATION: SITE # 5, BORING # 5	JOB NO. 016545	LOCATION: CHARLESTON, WV	GROUND ELEV. 938 / TOTAL DEPTH 20'
DRILL CONTRACTOR: MARSHALL MILLER	ENG/GEO: CRITCHFIELD		BEGUN : 1545 4/19/95
DRILL RIG: ACKER SOILMAX	DRILLER: B. BALL		FINISHED: 1715 4/19/95
HOLE SIZE: 8"	WEATHER: SUNNY, HIGH 80°		GROUND WATER (DEPTH/ELEV.): NA /
DRILLING METHOD: HOLLOW STEM AUGER	DRILLING FLUID/SOURCE: NA		TOP OF ROCK (DEPTH/ELEV.): 10' / 928'

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	ELEVATION	GRAPHIC LOG / PID	STRATIGRAPHIC DESCRIPTION
									3" ASPHALT AND 9" GRAVEL
	SPT-1	1.5 - 3.0	18"	5-11-15	100%	BROWN, MEDIUM SANDY SILT. (10YR 4/3) TRACE ROCK. MOIST, MOTTLED (SM)			BROWN, SANDY SILT (FILL)
5	SPT-2	4.5 - 6.0	18"	9-10-10	100%				
		8.5 -							
10	SPT-3	10	13"	5-10-50/5	70%	BROWN, WELL-SORTED, COARSE SANDSTONE TRACE MICA.			BROWN, COARSE SANDSTONE (ROCK)
		13.5 -							
15	SPT-4	15	5"	15-14-25	30%				
		18.5 -				- GRAY, CLAY LENS SOFT, MOIST.			
20	SPT-5	20	18"	2-3-4	100%				BORING TERMINATED AT 20'
25									

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES: * ANALYTICAL SAMPLES

BORING NO.: WV5-SB05